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No. 397

In the Supreme Court of the United States

OCTOBER TERM, 1936

THE HENDERSON COMPANY,
APPELLANT

VERSUS

ERNEST O. THOMPSON, C. V. TERRELL AND LON A. SMITH, COMPOSING THE RAILROAD COMMISSION OF TEXAS, ET AL.,
APPELLEES.

Appeal From the District Court of the United States for the Western District of Texas.

APPELLEES' REPLY BRIEF

ELLIOTT PRINTING CO.—*Austin*

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APPELLEES' REPLY BRIEF

The opinion of the District Court for the Western District of Texas denying appellant an interlocutory injunction is reported in 12 Fed. Supp. 213. The opinion of the same court denying appellant a permanent injunction is reported in the same opinion rendered in the cases styled The Texas-New Mexico Company versus Thompson et al. and Southland Gasoline Company versus Thompson et al. 14 Fed. Supp. 213 at 233.

JURISDICTION

The jurisdiction of this court is predicated on Section 266 of the Judicial Code as amended (Title 28, Section 380, U. S. C. A.), and Section 238 of the Judicial Code as amended (Title 28, Section 345, U. S. C. A.).

QUESTION PRESENTED

Whether the provisions of House Bill No. 266 of the Forty fourth Legislature of Texas, prohibiting the burning of sweet gas, as defined in such Act, for carbon black, as applied to Appellant, are constitutional enactments, having a reasonable relation to the conservation and development of the natural resources of Texas, and the protection of the correlative rights of owners in common gas reservoirs.

STATUTE INVOLVED

The statute of the State of Texas, the validity of certain provisions of which is involved, is Acts 1935, 44th Legislature, Regular Session, Chapter 120, page 318, Article 6008, Vernon's Annotated Revised Civil Statutes of Texas, Revision of 1925, as amended, which statute is commonly referred to as House Bill No. 266. The statute is set forth in full in Appendix "A" of Appellant's Brief.

The particular provisions of said Act under attack are as follows:

> "Sec. 2. Unless the context otherwise requires, the words defined in this Section shall have the following meaning when used in this Article, to-wit: * * *

"(g) The term 'sour gas' shall mean any natural gas containing more than one and one half grains of hydrogen sulphide per one hundred cubic feet or more than thirty grains of total sulphur per one hundred cubic feet, or gas which in its natural state is found by the Commission to be unfit for use in generating light or fuel for domestic purposes.

"(h) The term 'sweet gas' shall mean all natural gas except 'sour gas' and 'casinghead gas'."

"(i) The term 'casinghead gas' shall mean any gas and/or vapor indigenous to an oil stratum and produced from such stratum with oil.

"(j) The term 'natural gasoline' shall apply to gasoline manufactured from casinghead or from any natural gas.

"Sec. 3. The production, transportation or use of natural gas in such manner, in such amount, or under such conditions as to constitute waste is hereby declared to be unlawful and is prohibited. The term 'waste', among other things, shall specifically include: * * *

"(j) The use of sweet gas produced from a gas well for the manufacture of carbon black.***

"Sec. 7. After the expiration of ten days from the time of encountering gas in a gas well, no gas from such well shall be permitted to escape into the air, and all gas produced therefrom shall be utilized for the following purposes:

(1) No sweet gas shall be utilized except for

(a) Light or fuel

(b) Inherent chemical manufacturing other than the manufacture of carbon black

(c) Prior to introduction of gas into oil or gas bearing horizon in order to maintain or increase the reservoir pressure or otherwise increase the ultimate recovery of oil or gas from such horizon

(d) The extraction of natural gasoline therefrom when the residue is returned to the horizon from which it was produced

(2) In addition to the purposes for which sweet gas is provided from a well may be used sour gas may be used for inherent chemical manufacturing purposes including the manufacture of carbon black provided it is utilized in a plant producing a recovery of not less than one pound of carbon black to each one thousand cubic feet of gas, and provided further that the gasoline content is removed and saved from such sour gas before the same is utilized for carbon black.

The orders of the Railroad Commission under attack are the orders of said Commission promulgated in pursuance to said act dated August 5, 1935, amending its order dated July 20, 1935, and its order dated August 1, 1935 and subsequent orders of similar import which in effect merely follow the provisions of the statute complained of prohibiting the use of sweet gas for the manufacture of carbon black.

STATEMENT OF THE CASE

The Henderson company, a Maine corporation, brought this suit against the individual members of the Railroad Commission of Texas, an administrative body charged with the duty of administering and enforcing the provisions of House Bill No. 266, and against the Attorney General of Texas, William McCraw, seeking to enjoin these officials from enforcing or acting in pursuance of such Act.

House Bill No. 266 amends Article 6008 of the Revised Civil Statutes, which is the statute particularly dealing with the production and use of natural gas. Article 6008, as it existed prior to 1931, provided that any well producing natural gas shall within ten days after the gas bearing rock in such well is penetrated, be shut in and confined until and during such time as the gas therein shall be utilized for light or fuel or power. This statute was amended in 1931 (Acts of 1931, 42nd Legislature, First Called Session, Chap. 26, p. 46), which amendment provided that the Railroad Commission may permit the use of gas for repressuring or to otherwise increase the ultimate recovery of oil or gas from the strata and for any other purpose which under the circumstances surrounding each particular case might be found by the Commission after hearing to be practicable and conducive to the public welfare.

Article 6008 was again amended in 1933 by the passage of the so-called "sour gas law" (Acts 1933, 43rd Legislature, Regular Session, Chap. 136, p. 222, Acts 1933, 43rd Legislature, First Called Session,

Appellant asserts that the provisions of House Bill No. 255 prohibiting the use of sulfur gas for the manufacture of carbon black is unreasonable, arbitrary and unconstitutional in that it is not within the power of the Legislature to prohibit the use of property in a manner that is not detrimental to the public welfare. Appellant further asserts that it would be economically impossible for the owners of sour gas wells to comply with the provisions of House Bill No. 255 and that the effect of the enforcement of the provisions of House Bill No. 255 would be to deprive the owners of sour gas wells of their property without due process of law. Appellant asserts that the provisions of House Bill No. 255 are unreasonable and arbitrary in that gas containing a small percentage of hydrogen sulphide is not unlike [illegible] gas and that without eliminating such sulphur gases there is only a difference between sweet and sour gas as defined in the act in cost of production and that the cost of eliminating the sulphur from such sour gas is approximately [illegible] per thousand cubic feet. Appellant asserts that the effect of House Bill No. 255 is to deprive the owners of sweet gas wells of the equal protection of the law and deprives such owners of their property without due process of law.

Appellant asserts that it is the owner and operator of a gasoline manufacturing plant [illegible] known as the Scarbrough gas field to which sour gas is transported through twenty one gas wells from which gas is produced on the effective date of House Bill No. 255 and was recovering natural gas processing the same for its gasoline content and selling the residue gas to the Consumers Gas

bon Company under a sales contract with such company under which it is obligated to deliver to such company its requirements of gas to be burned for carbon black (R. 17). Appellant asserts that the gas produced from fourteen of the twenty one wells connected to its plant has been classified as "sweet" gas by the defendant Railroad Commission, and that gas from the remaining seven wells has been classified as "sour" gas and that it was prohibited under House Bill No. 266 from delivering gas from such "sweet" wells to the Combined Carbon Company for use in the manufacture of carbon black. Appellant alleged that it had a vested right in the leases of the twenty one wells connected to its plant by virtue of casing head gas contracts entered into by it with the lease holders of such wells and such right was to purchase gas capable of being produced therefrom for the purpose of processing same for its gasoline content; and that Appellant is also the outright owner of certain oil and gas leases which were acquired by it by purchase (R. 10). It therefore asserted that its contract rights with the Combined Carbon Company and with the leaseholders of the leases on which it held casing head gas contracts were impaired by the operation of the statute.

By what is termed an amendment to its bill of complaint (R. 56), Appellant complains of the orders of the Railroad Commission issued pursuant to the provisions of the sections of the Act which provide for a limitation of production to an amount which may be produced without waste and in all events to the amount of the market demand for gas, and for a pro-

tation of such amount among all producers in the field, its attack in this particular being similar to the attack made by the Consolidated Utilities Corporation and Texoma Natural Gas Company, considered by this Court in Cause No. 89, October Term, 1936. On the trial of the case, however, Appellant in open court abandoned its attack on the proration features of the statute, it appearing that Appellant had in another suit obtained an injunction against the provisions of the Act requiring proration of gas production which granted to Appellant the right to take sufficient amount of sour gas to fulfill its carbon black requirements, not to exceed 25% of the potential of the wells connected with its plant (R. 329-330).

The Appellees in their original answer (R. 52-53) allege that the Panhandle gas field is the largest known gas reservoir in the world and that said field embraces approximately 1,500,000 acres, and is approximately 140 miles in length, with an average width of 10 miles. Said field contains approximately 1 million acres known as productive of sweet gas, which is gas free from a hydrogen sulphide content, and approximately 400 thousand acres productive of sour gas, which contains varying degrees of hydrogen sulphide. That the Panhandle field is a single or common reservoir of gas, but that it is not probable or likely that gas will migrate from the area known as the East Panhandle Field to the area known as the West Panhandle Field. (R. 34).

That the distinction drawn by House Bill No. 266 between sweet and sour gas and providing the uses to which each may be put and providing that sweet gas

cannot be used in the manufacture of carbon black is a reasonable and constitutional enactment. That natural gas containing in excess of 15 grains of hydrogen sulphide or in excess of 30 grains of total sulphur per 100 cu. ft. is unfit for use for light and fuel and that there is a growing demand for sweet gas to be used as light and fuel. That House Bill No. 266 was adopted to conserve the natural resources of Texas and to conserve and prevent the waste of the gas reserves in the State and that to permit the use of sweet gas as that term is defined in the Act for the purpose to which sour gas may be put would quickly deplete and dissipate the sweet gas reserves and destroy the market for light and fuel. That gas containing in excess of 15 grains of hydrogen sulphide or in excess of 30 grains of total sulphur is unfit to be used for light and fuel without treatment (R. 36-37). That the use of sweet gas in the manufacture of carbon black is a wasteful utilization of such gas because it may be put to many useful and beneficial purposes while sour gas can be used in the manufacture of carbon black and to permit the use of sweet gas for the manufacture of carbon black would constitute waste thereof in view of the facts (R. 39). That the classification of sweet and sour gas as provided in House Bill No. 266 is a reasonable classification and one adapted to the actual conditions existing in the Panhandle gas field (R. 40-41). That if the provisions of House Bill No. 266 are enforced, no undue drainage will occur as between sweet and sour gas zones and each producer and operator will secure a fair share of the gas underlying his land and his rights in said reservoir will be protected and safeguarded and physical waste prevented thereby (R. 52).

That the definition of sour gas as provided in House Bill 266 is a reasonable and logical definition and one well adapted to the actual conditions existing in the Panhandle gas field. That the restrictions provided by the statute do not deny the carbon black user a source of gas, but on the other hand afford a tremendous amount of gas which exists in the sour gas and oil field areas of the Panhandle field, and that to permit the use of sweet gas for carbon black purposes would actually deplete and dissipate sweet gas reserves, and on the other hand, gas which contains in excess of 10 grains of hydrogen sulphide or in excess of 30 grains of total sulphide or sour gas as defined in said Act is unfit for light and fuel unless processed to remove such foreign elements, and could and should be utilized for the manufacture of carbon black. That in view of the facts existing in the Panhandle gas field the use of sweet gas for manufacture of carbon black would constitute waste of the natural resources of the State of Texas.

In the opinion of the trial court on the application for permanent injunction (R. 8; 95), it was held that the Texas doctrine of the ownership of oil or gas in place would not militate against the power of the State to regulate the production of such natural resources; that such principle applied whether such operation was brought about through underground waste or waste through an inferior use of gas after its withdrawal from a common reservoir (R. 90-91). That the State in its conservation of natural resources is empowered to consider the uses to which those resources are most appropriately adapted and to conserve said resources for particular uses although the result of the regulation

may be to destroy another use. That the classification here involved as between sweet and sour gas is based upon a valid ground of distinction and the effect of that regulation is not to outlaw the carbon black industry, but on the other hand, the statute is dedicating to its use a tremendous amount of gas which is available to it for many years to come. That from the evidence an abundance of factual support for the classification and definitions assailed by the appellant exists and that it cannot be said that such classifications and definitions are arbitrary or unreasonable (R. 93-94).

That the provisions of the Texas Constitution with reference to the impairment of contracts constitute no barrier to the exercise of the police power which indirectly affects contractual relations, and that the protection afforded by the Texas constitution is against the direct impairment and not an indirect impairment which flows incidentally from the valid exercise of the police power (R. 4).

The Court accordingly denied the appellant a permanent injunction (R. 95-97), and, in accordance with the provisions of Equity Rule 70½, filed full findings of fact and conclusions of law (R. 97-111).

SUMMARY OF THE ARGUMENT

Legislative authority for the enactment of House Bill No. 266 and the particular provisions of said Act here under attack is found in the police power of the Texas Legislature and also upon the provisions of the Texas Constitution (Section 59 of Article XVI) which section was adopted at an election held on August 21, 1917, and recognized by proclamation

under date of October 2, 1917, and provides in part as follows:

> "The conservation of the development of all the natural resources of this State * * * and the preservation and conservation of such natural resources of this State, are each and all hereby declared public rights and duties, and the Legislature shall pass all such laws as may be appropriate thereto. * * * "

The regulation of gas production under House Bill No. 266 and specifically those provisions here under attack (Section 2, Section 3 and Section 7) is reasonably calculated (1) to conserve and develop the natural resources of the State and (2) to adjust and protect the correlative rights of all owners in common reservoirs. House Bill No. 266 seeks to protect both public and private rights therein. In the enactment of the statute the Legislature sought to remedy two outstanding evils existing in the gas fields of Texas, particularly in the Panhandle gas field. These two evils were: (1) utilization of gas for inferior purposes, with consequent physical and economic waste; (2) disproportionate and ultimate unequal production and use from common gas reservoirs. In remedying such evils the Legislature was empowered to employ all legitimate means having a reasonable relation to the accomplishment of the ends sought.

The State may consider the relation of the rights of owners of sweet, sour and casinghead gas in the Panhandle gas field and accommodate their co-existence, and in the interest of all may limit one that others may be enjoyed. This power of accommodat-

ing and adjusting the co-existence of the correlative rights of owners in such common reservoir has been asserted in House Bill No. 266 in the prevention of physical and economic waste of a common fund, in the adjustment of rights of owners in such common property, irrespective of waste, and in the adjustment of rights of common owners whose interests conflict by the enactment of regulations for their mutual protection and to bring about a fair and proportionate development of property and rights therein.

The tremendous and complex problems encountered in the Panhandle gas field which are unrivaled in scope present for legislative solution the diverse interests of a multitude of land and royalty owners, leaseholders and operators, each asserting an interest in oil, gas (sweet and sour) and casinghead gas all encountered in a common reservoir. Millions of consumers are dependent upon the field for their light and fuel supply. Carbon black manufacturers and the consumers of products of which carbon black forms a necessary ingredient are also dependent in great part upon such field for their supply of carbon black. The interests of the consumers of gas for light and fuel and of other consumers purchasing the products of which carbon black is a necessary ingredient necessarily conflict. The solution reached by the Legislature, after long and careful consideration, was one which devoted to the main uses for which the natural gas residue is now being used on the Panhandle field—light and fuel and carbon black—a portion of the reserve supply of gas in said field and in the enactment of such statute, the Legislature dedicated to the use of the carbon black manufacturer both sour and casinghead gas reserves,

comprising a tremendous amount of gas, which is sufficient to supply the wants of the industry for many years to come. (R. 104).

By the enactment of the statute, the Legislature has drawn a reasonable line of demarcation between gas which may be used for light and fuel purposes and gas which may not be so used, and has prohibited the use for carbon black of gas which without treatment may be used for light and fuel purposes, while permitting the inferior gas contaminated with foreign content to be used for carbon black purposes. The definition of the two classes of gas, and the adaptation of their uses is reasonable and logical.

The provisions of the Constitution of the State of Texas prohibiting the impairment of the obligation of contracts constitute no obstacle to the enactment of this statute designed to protect the correlative rights of the common owners and to prevent the waste of the natural resources of the State, since the statute does not directly operate to impair the contracts of any operator or owner in the field, and any impairment of such contracts is the indirect result of the legitimate exercise of the police power of the State.

ARGUMENT

I.

The Texas Legislature has power to regulate the production and use of natural gas to prevent waste thereof and to protect the correlative rights of owners and operators in a common gas reservoir.

The appellees contend that the Legislature of the State of Texas has ample power to enact a statute

such as House Bill No. 266 the purpose of which is to regulate the production and use of natural gas, a natural resource of the State, to prevent the waste of such gas or the inferior utilization of same after production and to adjust and accommodate the co-existence and relation of the rights of the common owners and operators in common gas reservoirs to produce and use such natural resource. It is the contention of the appellees that the limitation placed upon the use of sweet gas by House Bill No. 266 is sustainable not only as a measure calculated to prevent an inferior utilization of gas but also as one which is calculated to and which will protect and adjust the rights of the common owners and operators in common gas reservoirs in this State.

> 1. At the time of the enactment of House Bill No. 266 the two principal evils existent in the natural gas industry were (1) inferior utilization and (2) disproportionate production of natural gas.

The order of the Railroad Commission dated December 10, 1935 (R. 261-281) and the preliminary report of the Senate investigating Committee (R. 330-345) depict the conditions which existed in the Panhandle field before and at the time of the enactment of House Bill No. 266 in 1935. There were two principal evils with which the people of Texas and the Legislature were concerned when this statute was under consideration. The first evil was that of using sweet gas for inferior or wasteful purposes. This evil had arisen principally on account of the enactment of the so-called "sour gas law" by the 43rd Legislature of Texas in 1933, which permitted gas producers in

the Panhandle field who had no light and fuel market gas to process or strip by the compression or absorption method dry gas (as distinguished from casing head or wet gas, which is produced from oil wells with oil) of its natural gasoline content and to allow the residue gas to escape into the air. With this operation only three per cent of the heat value of the gas was recovered, while ninety seven (97%) per cent of the heat value was dissipated. Under the provisions of this statute, the operators could and did use sweet gas for the manufacture of carbon black. As a result of these operations dry sweet gas was subjected to inferior uses. Prior to the enactment of the amendments to Article 6008, it had been the fixed public policy of the State to restrict the use of dry gas to light and fuel purposes, but under the operation of the statute as amended, dry gas was being subjected to uses socially less desirable than that of light and heat uses.

The second principal evil which confronted the Legislature of Texas was the evil of the disproportionate or unequal production on the part of certain producers in the gas field of Texas, especially in the Panhandle field, a common reservoir. This evil has concerned the people of Texas and their administrative and legislative bodies since the Panhandle gas field became a major factor in the production of gas in the United States. Prior to the enactment of the sour gas law the only producers who were able to produce any gas from the sweet gas portion of the Panhandle field were the pipe line companies or those having connections with such companies. With a liberalization of the statute so that those without light and fuel connec-

tions could make beneficial use of their gas, the sweet gas area of the Panhandle field was subjected not only to withdrawal for production for the light and fuel market, but was subjected to tremendous withdrawals by those who processed the gas for its gasoline content and then permitted the residue gas to be blown and wasted into the air, and to production for the purpose of delivering sweet gas to carbon black factories in order for such gas to be burned for carbon black.

Under existing regulations it was lawful for any gas well to be produced up to 25% of its capacity to produce. Those who in 1933 and 1934 produced gas from the sweet gas wells and sold same to the carbon black and stripping plants were able on account of the nature of the demand for the same to produce a much larger quantity of gas from their wells than were most of the pipe lines who were producing their gas only for light and fuel purposes. This condition existed on account of the comparative limited nature of the demand for gas for light and fuel purposes. Gas produced for the light and fuel market cannot be stored. It must be transported immediately to the market; but the amount of gas which may be produced for the gasoline manufacture or for the carbon black manufacture is only limited by the capacity of the gasoline plant or carbon black factory which is supplied, since the products of such factories, natural gasoline and carbon black, are capable of being stored, and the final disposal of such products is not dependent upon the existence of an immediate market. The result of the change of policy expressed in the sour gas law was that many stripping plants were constructed to extract

the natural gasoline content of sweet gas, and carbon black factories commenced the use of sweet gas in the manufacture of carbon black.

The sour gas law, while authorizing production for any purpose and according an opportunity to produce to those without pipe line connections, affords no relief to other producers in the field owning sweet and sour gas producing lands and wells which were not connected either to the carbon black or stripping plant or to the lines of the pipe line companies, and these producers continued to be in a situation similar to that of all the known pipe line producers before the passage of the sour gas law. In other words, these producers were without an opportunity to produce their sweet or sour gas from their wells for any purpose or to protect themselves from the drainage to which they were being subjected by wells connected to pipe lines and wells connected to stripping and carbon black plants. The process of stripping gasoline content from natural gas and permitting the residue gas to be blown into the air is fully described and illustrated in the case of *F. C. Henderson, Inc., vs. Railroad Commission of Texas*, 56 F. (2d) 218, which was a suit brought by the predecessor of the Appellant against the Railroad Commission seeking to have Article 6008, prior to its amendment, declared unconstitutional.

Since under the sour gas law an operator was permitted to take up to 25% of the full capacity of its well to produce, the operator was not concerned with producing from a large number of wells but would confine his production to the wells which he either owned or on which he had an advantageous contract.

As a result of this practice, the production of gas was concentrated in a few areas from a few wells in both the sweet and sour areas of the Panhandle gas field, resulting in the non development of large portions of both the sweet and sour gas areas.

This condition is amply illustrated by the pressure map which has been introduced in evidence in this case which shows that while there has been intensive development around the Borger, Sanford (where the plant of the appellant, The Henderson Company, is located) and Skellytown area that a large portion of the sour gas area, consisting of several hundred thousand acres, has had practically no development. (R. 137, 139, Map marked Exhibit "A", witness Hughes The development therefore in the Panhandle field, especially in the sour gas area, has been concentrated development in comparatively small areas. The production from these areas has resulted in the lowering of the pressure in the immediate vicinity of the Henderson Company plant (R. 315). From the twenty-one wells connected to the Henderson Company's plant, located on 1201 acres, 94,688,714,000 cu. ft. of gas were produced through June, 1935, which is a production per acre of approximately 78,842,000, which is approximately 24 times as much gas per acre as the average for the field (R. 314-315). From these 1201 acres appellant has withdrawn between three and four times the estimated reserve originally underlying such acres (R. 314). By reason of the lowering of the pressure in the immediate vicinity of these gasoline and carbon black plants, such as the Appellant's, a drainage condition has occurred, which drainage is

from both the sour and sweet gas areas (R. 315), which drainage condition will continue to be present for many years.

At the time that House Bill No. 266 was before the Legislature, the light and fuel market was dominated and controlled by large pipe line companies who had acquired markets in Texas and other states, who refused to purchase gas containing hydrogen sulphide (R. 13). These pipe line companies owned approximately 80% of the sweet gas area, and since they had refused to take gas containing hydrogen sulphide, they had made practically little, if any, investments in the sour gas area. The light and fuel industry therefore was practically confined to the sweet gas area. The carbon black industry was practically confined to the sour gas area and the oil field with the exception of one or two plants which had been erected in the sweet gas area since the enactment of the sour gas law. It was clear that in the event the Legislature permitted the continued use of sweet gas for the sole purpose of extracting the gasoline content thereof and for carbon black manufacture, that the sweet gas area would be subjected to two demands besides the demand for the light and fuel market. It would be natural that the carbon black industry would follow the line of least resistance and use sweet gas for the manufacture of carbon black rather than sour gas, since sweet gas could be more economically used in the manufacture of carbon black than sour gas, the presence of hydrogen sulphide in the sour gas having a deteriorating effect upon the carbon black plant itself (R. 173).

The situation, therefore, before the Legislature was

that unless sweet gas were prohibited for the use of carbon black manufacture the sour gas area would eventually have no market. Sour gas could not be disposed of. All of the production would come from the sweet gas area and the sour gas land owners would have no means of disposing of the gas underneath this property which would be eventually drained to the sweet gas area and forever lost to him. It is clear also that sour gas being contaminated with a hydrogen sulphide content was a commodity inferior to sweet gas which was not so contaminated and needed no treatment to remove foreign elements except the extraction of gasoline content to which all gas was subjected before being put into a pipe line for domestic and industrial uses. It was also clear to the Legislature that the demand for gas for light and fuel purposes was steadily increasing. The nine major pipe line companies running from the fields had 4125 miles of line with a total capacity of one billion cubic feet of gas per day. While only three hundred million cubic feet of gas were transported from the Panhandle field for light and fuel purposes during the year 1933 the daily average had increased to four hundred million in the year 1934 and to four hundred fifty million during the year 1935.

With a program therefore of ratable production which would insure to each sweet and sour gas producer a fair share of the total amount produced from each field it inevitably followed that the use of sweet gas for the manufacture of carbon black should be prohibited and the carbon black manufacturer limited to the sour gas oil field of the Panhandle, where an abundance of gas was at his command.

The legislative problem, therefore, was (1) to prevent the inferior use of sweet gas in the stripping process and in the carbon black plant, and (2) to prevent disproportionate production by adjusting the rights of all owners in the field so that they might have an opportunity to produce and use their gas, sweet or sour. This problem the Legislature met by the enactment of House Bill No. 266.

> "Ample authority exists for the Legislature of Texas to prevent the wasteful use of a natural resource of the State . . ."

It should not require an extended argument or numerous citations of authority to sustain the proposition that the Legislature of Texas possesses ample power under both the Constitution (Sec. 59 (a), Article XVI) and the police power to enact laws appropriate to the conservation and development of natural resources and the prevention of waste or loss both on the surface and underground in the production of oil or gas. The theory of the ownership of gas in place which operates in the State of Texas or the rule of capture do not militate against this Legislative power. See [redacted]*on v. Humble Oil & Refining Company*, 83 S. W. (2d) 935 and 940, 99 A. L. R. 1107 (not yet officially reported); *Danciger Oil & Refining Company v. Railroad Commission*, 49 S. W. (2d) 837 at 840; *F. C. Henderson, Inc., v. Railroad Commission of Texas*, 56 F. (2d) 218 at 221. *Oxford Oil Co. v. Atlantic Oil & Producing Co.*, 16 F. (2d) 639, 22 F. (2d) 597, petition for Writ of Certiorari refused, 277 U.S. 585, 72 L. Ed. 1000, 48 S. Ct. 433.

In the case of *Brown v. Humble Oil & Refining Company*, supra, the Supreme Court of Texas used this language:

> "The rule in Texas recognizes the ownership of oil and gas in place and gives to the lessee a determinable fee therein. Lemar v. Garner, 121 Tex. 502, 50 S. W. (2d) 769; Humphreys Mexia Co. v. Gammon, 113 Tex. 247, 254 S. W. 296, 29 A. L. R. 607; Waggoner Estate v. Sigler Oil Co., 118 Tex. 509, 19 S. W. (2d) 27; Texas Co. v. Daugherty, 107 Tex. 226, 176 S. W. 717, L. R. A. 1917F, 989.
>
> "Owing to the peculiar characteristics of oil and gas, the foregoing rule of ownership of oil and gas in place should be considered in connection with the law of capture. This rule gives the right to produce all of the oil and gas that will flow out of the well on one's land; and this is a property right. And it is limited only by the physical possibility of the adjoining landowner diminishing the oil and gas under one's land by the exercise of the same right of capture. The following decisions discuss the law of capture as applied in this state: Stephens County v. Mid-Kansas Oil & Gas Co., 113 Tex. 160, 254 S. W. 290, 29 A. L. R. 566; H. & T. C. Ry Co. v. East, 98 Tex. 146, 81 S. W. 279, 66 L. R. A. 738, 107 Am. St. Rep. 620, 4 Ann. Cas. 827; Prairie Oil & Gas Co. v. State (Tex. Com. App.) 231 S. W. 1088. *Both rules are subject to regulation under the police power of a state.*" (83 S. W. (2d) 940. (Italics ours.)

The Supreme Court of Texas, therefore, has definitely announced the principle that both the doctrine of ownership-in-place and the rule of capture are rules

which are subject to limitation under the police power of the state.

In Indiana the non-ownership rule prevails. This court, speaking through Mr. Justice White, in *Ohio Oil Co. v. Indiana*, 177 U. S. 190, 44 L. Ed. 729, 20 Sup. Ct. 576, held that the right of one owner in a common reservoir was subject to the property rights and interest of all others claiming the common fund, and that by reason of the situation of each owner, and the fact that his use of the common property tends to divest the other owners of a portion of the property, there must arise the legislative power to protect these mutual rights in property from destruction. The language of this court in the *Ohio Oil Company* case (177 U. S. 210) was quoted by the Texas Supreme Court in the case of *Brown v. Humble Oil & Refining Company*, supra, as "clearly applicable to the laws of this state" (83 S. W. (2d) 942).

In the case of *Oxford Oil Co. v. Atlantic Oil & Producing Co.*, 16 F. (2) 639 (at 642), affirmed in 22 F. (2d) 597, writ of certiorari refused by this court it was said:

> "Under the Texas decisions the land owner owns the oil and gas in place (Texas Company vs. Daugherty, 107 Tex. 226, 176 S. W. 717, L. R. A. 1917F, 989), while in Indiana he has only the right to drill and reduce the oil to possession. I do not believe that the difference is important, but, if it has any value upon the problem we are discussing, *it tends to add a stiffening to the reason for sustaining the Texas regulation as a proper exercise of its police power.*" (Italics ours).

3. The Legislature of Texas has power to regulate the production and use of natural gas in order to protect and adjust the correlative rights of common owners in a common reservoir.

It is clear that the regulation now under consideration attempts to adjust and protect the correlative rights of landowners and operators owning various classes of gas located in the Panhandle gas field of Texas. The Panhandle field is an interconnected reservoir and there is conclusive proof that gas over a period of time migrates from one portion of the reservoir to the other. There is inter-connection between the gas saturated rocks and sands throughout the entire area and the rocks and sands which are saturated with both gas and oil (R. 136-137).

The leading case sustaining the rights of the state to protect the rights of owners in a common reservoir is, of course, *Ohio Oil Company v. Indiana*, 177 U. S. 190, 44 L. ed. 729, 20 S. Ct. 576. This case involves a statute of Indiana which made it unlawful for any person to permit gas from any well to escape into open air for more than two days without being confined in the well or proper pipe line or other safe receptacle. In the opinion of the court it was said that every owner and producer in a common reservoir is affected by the conduct of every other producer in such reservoir in the following language:

> "No one owner of the surface of the earth within the area beneath which the gas and oil is removed can exercise his right to extract from the common reservoir in which the supply is held without to an extent diminishing the source of supply as to which all other owners of surface must exercise their right." (177 U. S. 203)

The language and reasoning of Mr. Justice White in the Ohio Oil Company case is "clearly applicable to the laws of this state." *Brown v. Humble Oil & Refining Company* (not yet officially reported), 83 S. W. (2d) 935, at 942, 99 A. L. R. 1107; Cf. *West v. Kansas Natural Gas Company*, 211 U. S. 229, 55 L. ed. 716, 31 S. Ct. 564.

The right of the state to regulate in order to secure the rights of owners of common reservoir from a disproportionate taking of products is reiterated in the case of *Walls v. Midland Carbon Company*, 254 U. S. 300, 65 L. ed. 276, 41 S. Ct. 118. In that case the court said:

> "The state may consider the relation of rights, and accommodate their co-existence, and, in the interest of the community, limit one that others may be enjoyed." (254 U. S. 315)

Again, in the *Walls* case, it was pointed out that in the *Ohio Oil Company* case the use of either oil or gas by one owner of the surface

> " * * * affected the use of other owners and an exclusive use by one diminished the use by the others * * * " (254 U. S. 317).

and that

> " * * * the state may interpose its power to prevent a waste or disproportionate use of either oil or gas by a particular owner in order to conserve the equal right of other owners and advance the public interest" (254 U. S. 317).

As in the instant case, the *Walls* case presents a regulation to prohibit an uneconomic use of natural gas, or a use for inferior purposes, but the court clearly

declared that the important thing to be considered was not the use which was made of the gas, "but the proportion of his use to that of other, or, it may be the prevention of use by others." Again we point out that manufacturers of carbon black are not restricted in their consumption of gas by the existing market for carbon black, since carbon black may be stored if there be production in excess of market demands. The same may not be said of those who produce gas for the purpose of supplying the domestic and industrial needs for light and fuel. It follows that, in the absence of legislative regulation, carbon black manufacturers in Wyoming were in a position to withdraw an entirely disproportionate amount of gas from the reservoir which they owned in common with those supplying gas for light and fuel purposes. In such situation "a state may consider the relation of rights and accommodate their co-existence, and, in the interest of the community, limit one that others may be enjoyed."

In the case of *Bandini Petroleum Co. v. Superior Court*, 284 U. S. 8, 76 L. ed. 136, 52 S. Ct. 103, this court, through Mr. Chief Justice Hughes refused to take the position that it was the intention of the Supreme Court of California to deny the operation of the California statute "as a safeguard of the co-existing rights of surface owners". In its opinion this court sustained the statute, which prohibited the unreasonable waste of natural gas both as a statute designed to protect the public interest in the conservation of natural gas and as "one regulating the exercise of the correlative rights of surface owners with respect to

a common source of supply of oil and gas." For the opinions of the lower courts see *Bandini Petroleum Co. v. Superior Court*, 293 Pac. 899, *People v. Associated Oil Co.*, 221 Cal. 93, 294 Pac. 717. See also *Russell v. Walker*, 160 Okl. 145, 15 Pac. (2d) 114.

The trial court in the instant case recognized and rightfully held that the doctrine of ownership in place or capture rule afforded no obstacle to the exercise of the police power to regulate for the protection of the rights of common owners in a common reservoir (R. 90).

In *Bacon v. Walker*, 204 U. S. 311, 51 L. ed. 499, 27 S. Ct. 289 there was involved the right of the State of Idaho to prohibit persons owning sheep from permitting them to graze within two miles of the possessory claims or dwelling houses of other people. The object of the statute was to adjust the rights of those owning cattle with those owning sheep. In sustaining the validity of the statute this court held that the state had an interest in the accommodation of the rights as between cattle owners, sheep owners, and the owners of possessory claims and dwelling houses. See also *Lindsley v. Natural Carbonic Gas Co.*, 220 U. S. 61, 55 L. ed. 369, 31 S. Ct. 337; *Hathorn v. National Carbonic Gas Co.*, 194 N. Y. 326, 87 N. E. 504, 23 L. R. A. (n. s.) 436. In the *Hathorn* case it was said:

> "They (the public) have an interest in the preservation of natural products like these mineral waters, and it fairly may be said that they have a substantial and enforceable interest in preserving the just and reasonable use, by all mem-

> bers of a community, of a common supply of a natural product, and in so curtailing the attempts of one or a few to get an *unjust proportion* thereof that the rights of other members of the community will not be interfered with, and that disputes and litigation shall not be precipitated, and that large amounts of property shall not be endangered."

In *Oxford Oil Co. v. Atlanta Oil & Producing Co.*, 161 F. (2d) 639, in upholding the constitutionality of Rule 37 of the Railroad Commission of Texas (the oil well spacing rule), District Judge Atwell said (at page 642):

> "We must not limit police power to such legislation as will serve to operate upon the safety and liberty and health of the citizen. The variety of cases in which the exercise by one individual of his rights may conflict with a similar exercise by others, is multitudinous, and the courts have not found it impossible to uphold police legislation that prevents such trespass. Bacon v. Walker, 204 U. S. 317, 27 S. Ct. 289, 51 L. Ed. 499; Commonwealth v. Alger, 7 Cush. (Mass.) 53; Barbier vs. Connolly, 113 U. S. 31, 5 S. Ct. 357, 28 L. Ed. 923; Manigault vs. Springs, 199 U. S. 473, 26 S. Ct. 127, 50 L. Ed. 274; Holden v. Hardy, 169 U. S. 366, 18 S. Ct. 383, 42 L. Ed. 780; Lindsley v. Natural Carbonic Gas Co., 220 U. S. 61, 31 S. Ct. 337, 55 L. Ed. 369, Ann. Cas. 1912C, 160; and many cases cited at page 1278, 12 Corpus Juris, of a likeness."

It is the position of the Appellees that House Bill No. 266, construed as a whole, is one designed to affect the conservation of the natural resources of the state and to accommodate the rights of owners and

operators in common reservoirs both as to the right of production and as between the types of property held by them in such common reservoir. These interests are necessarily conflicting. Since, as amply established by Appellant's own witnesses, the Panhandle gas reservoir is an inter connected reservoir it follows that the operations of one operator will affect the operations of all others. Not only is there a diversity and conflict of interests in the field itself but as between the industries which use natural gas as a fuel and those using carbon black there arises a conflict of rights. In *Department of Interior Bulletin No. 192, entitled "Carbon Black Its Manufacture, Properties and Uses* (at page 47) it was pointed out:

> "Consumers of natural gas live in the gas producing districts or at a reasonable distance therefrom, whereas users of carbon black are widely distributed. Consequently there is a conflict in interests between those who are in the radius of gas service from the field and those living a considerable distance from the field and benefiting by the use of carbon black."

In *Miller v. Schoene*, 276 U. S. 272, 72 L. Ed. 568, 48 S. Ct. 246, a Virginia statute was sustained which had the effect of requiring the owners of red cedar trees infected by cedar rust to cut down or destroy the trees where they constituted a menace to the apple-growing industry. The court said that it was for the Legislature of the state to decide whether or not a condition was presented which required a legislative choice of remedies between the preservation of the apple industry or the growing of ornamental cedar trees.

> "When forced to such a choice the state does not exceed its constitutional powers by deciding upon the destruction of one class of property in order to save another which, in the judgment of the legislature, is of greater value to the public." (276 U. S. 279).

As against the assertion by the appellant that the legislature is not entitled to pass any law which would interfere with its right to use sweet gas as it may desire regardless of the effect such use might have upon its neighbors, or of the interests of the public in the proper utilization of gas in the Panhandle reservoir, the language of the *Miller* case is applicable.

> "It will not do to say that the case is merely one of a conflict of two private interests and that the misfortune of apple growers may not be shifted to cedar owners by ordering the destruction of their property; for it is obvious that there may be, and that here there is, a preponderant public concern in the preservation of the one interest over the other. * * * And where the public interest is involved preferment of that interest over the property interest of the individual, to the extent even of its destruction, is one of the distinguishing characteristics of every exercise of the police power * * *" (276 U. S. 279).

See also *Stephenson v. Binford*, 287 U. S. 251, 77 L. Ed. 288, 53 S. Ct. 181; *Noble State Bank v. Haskell*, 219 U. S. 104, 55 L. Ed. 112, 31 S. Ct. 186; *Pipe Line Cases*, 234 U. S. 548, 58 L. Ed. 1459, 34 S. Ct. 956; *Munn v. Illinois*, 94 U. S. 113, 24 L. Ed. 77; *Nebbia v. New York*, 291 U. S. 502, 78 L. Ed. 940, 54 S. Ct. 505.

II.

The provisions of House Bill No. 266 complained of serve to accomplish the conservation of the natural resources of Texas, and to prevent disproportionate use thereof, by prohibiting the use of "sweet gas" in carbon black manufacture (regarded as less beneficial than light and fuel uses). Such prohibition in the presence of a great and constantly increasing demand for gas for light and fuel purposes, attended by a broad and liberal permission to utilize other statutorily defined classes of gas in carbon black manufacture, is not an unconstitutional taking of Appellant's property, even though Appellant's manufacture of natural gasoline and sale of gas for carbon black be restricted.

While we are of the opinion that all of the provisions of House Bill No. 266 must be construed together to evidence and accomplish the legislature's comprehensive program, the following provisions of the statute are most pertinent to this discussion:

Subsection (h) of Section 2 of the act provides:

"(h) The term 'sweet gas' shall mean all natural gas except 'sour gas' and 'casinghead gas.'"

Subsection (g) of Section 2 of the act provides:

"(g) The term 'sour gas' shall mean any natural gas containing more than one and one-half (1½) grains of hydrogen sulphide per one hundred (100) cubic feet or more than thirty (30) grains of total sulphur per one hundred cubic feet, or gas which in its natural state is found by the Commission to be unfit for use in generating light or fuel for domestic purposes.

Subsection (i) of Section 2 of the act provides:

"(i) The term 'casinghead gas' shall mean any gas and/or vapor indigenous to an oil stratum and produced from such stratum with oil."

Section 3 constitutes the statutory definition of waste, including subsection (j):

"(j) The use of sweet gas produced from a gas well for the manufacture of carbon black."

Section 7 extends treatment to two, and only two, subjects:

(a) It prohibits the escape into the air of gas produced from a gas well after ten days from the time of encountering the same.

(b) It prescribes the uses for gas produced from gas wells.

Section 7 provides:

"SEC. 7. After the expiration of ten (10) days from the time of encountering gas in a gas well, no gas from such well shall be permitted to escape into the air, and all gas produced therefrom shall be utilized for the following purposes:

"(1) No sweet gas shall be utilized except for:

"(a) Light or fuel.

"(b) Efficient chemical manufacturing, other than the manufacture of carbon black.

"(c) Bona fide introduction of gas into oil, or gas bearing horizon, in order to maintain or increase the rock pressure or otherwise increase the ultimate recovery of oil or gas from such horizon.

"(d) The extraction of natural gasoline therefrom when the residue is returned to the horizon from which it is produced.

"(2) In addition to the purposes for which sweet gas produced from a gas well may be used, sour gas may be used for efficient chemical manufacturing purposes including the manufacture of carbon black provided it is utilized in a plant producing a recovery of not less than one (1) pound of carbon black to each one thousand (1000) cubic feet of gas, and provided further that the gasoline content is removed and saved from such sour gas before the same is utilized for carbon black.

"(3) Casinghead gas may be used for any beneficial purpose which includes the manufacture of natural gasoline.

"(4) Any producer of either sweet or sour gas or casinghead gas may use the same as gas lift in the bona fide production of oil where such gas is not used in excess of ten thousand (10,000) cubic feet per barrel of oil produced; provided that in order to prevent waste in any case where the facts in such case warrant it, the Commission may permit the use of additional quantities of gas to lift oil, provided all such gas so used in excess of ten thousand (10,000) cubic feet for each barrel of oil shall be processed for natural gasoline and the residue burned for carbon black when same is reproduced."

1. **Facts adduced in the Record justify the Regulation.**

The Appellant owns a natural gasoline plant which was erected in the year 1929. Producers of gas well gas sell and deliver gas to Appellant under contracts (R. 123-124). A substantial number of the contracts of the Appellant cover lands producing sweet gas only; a substantial number of such contracts cover lands producing sour gas only. The Appellant

also owns a contract covering the sale and delivery of the residue gas remaining after natural gasoline extraction for carbon black manufacture (R. 126). The Combined Carbon Company with which Appellant has contracted to deliver residue gas is known as the channel type plant, and has a capacity of approximately 30,000,000 cubic feet of gas per day. This plant commenced operations on May 1, 1935 (R. 204). The carbon black plants utilizing such gas employ the channel process which yields approximately 1.43 pounds of carbon black per 1000 cubic feet (R. 187). While processes now in the experimental stage have yielded greater recoveries than the channel process, nevertheless carbon black at 1.43 pounds per 1000 cubic feet is the only carbon black adaptable for use in manufacturing printers ink and automobile tires. Ink made from carbon black is the only ink usable in the modern rotary printing press. There is nothing like carbon black that will give tensile strength and color to automobile tires (R. 176).

Carbon black may be more economically manufactured from sweet gas than sour gas, because sour gas corrodes and destroys gas transportation lines and other equipment and machinery (R. 173). Sweet gas may be used for light and fuel purposes without treatment. Sour gas cannot be used for light and fuel without treatment, but can be used for carbon black manufacture without treatment (R. 331). Gas utilized for light and fuel is worth substantially more than gas used in the manufacture of carbon black when sold at the well, if the price comparison is made there, or when sold at the exhaust of the natural gasoline plant,

if the price comparison is made there (R. 333). The average prevailing price for gas used for light and fuel from the Panhandle field is in excess of three cents per thousand cubic feet, while the prevailing price for gas used for carbon black ranges from six-tenths of one cent to one and one-half cents per thousand cubic feet. The price actually paid by the Combined Carbon Company to Appellant for the gas delivered to it is one-half cent per thousand cubic feet (R. 213). Estimates of recoverable gas in the Panhandle field range from thirteen trillion cubic feet (Witness Hughes, R. 143), to twenty-two trillion cubic feet (Witness Craig, R. 335), to twenty-nine trillion cubic feet Witness Hagy, R. 167). The demand for sweet gas from the Panhandle field has continued to increase since 1932 (R. 326).

The ratio of sweet gas reserves to sour gas reserves is approximately two to one. The ratios of sweet gas acreage to sour gas acreage is approximately two to one (R. 335, 138). The ratios [illegible] demand for sweet gas to be utilized for light and fuel to the demand for sour gas to be used for carbon black manufacture is approximately two to one. The ratio of the capacity of lines transporting gas from the Panhandle field for light and fuel and the capacity of the carbon black plants in the field is approximately two to one. The carbon black industry, including existing carbon black factories, equipment and residue gas transportation lines from natural gasoline plants had become established in the Texas Panhandle field prior to August 12, 1931 with the exception of three plants (R. 324). Prior to August 12, 1931 there was no

demand for sour gas from gas wells. For the month of February, 1936, the sweet gas fuel demand was 824 million cubic feet, the demand for sour gas for carbon black manufacture was 378 million cubic feet (R. 325). Natural gas in the Panhandle field, sweet or sour, yields on an average, approximately .35 of a gallon of gasoline per thousand cubic feet, irrespective of what portion of the reservoir such gas may be withdrawn from (R. 141).

The Panhandle oil and gas field structure lies along a buried mountain range known geologically as the Amarillo Arch, that extends along the length of the field, continuing in a southeasterly course into the southwesterly portion of Oklahoma, where it comes to the surface as the Wichita Mountains, at an elevation of approximately 1000 feet above sea level. The field is a belt lying in a southeasterly northwesterly direction and extends from eastern Wheeler County to northern Moore County, Texas. It is approximately 124 miles in length with an average width of approximately 20 miles containing 1,504,386 acres; there being 1,066,662 acres of sweet gas, and 437,724 acres of sour gas territory. The field is located in the counties of Hartley, Moore, Hutchinson, Potter, Carson Gray and Wheeler. The oil producing area covers a belt about 90 miles in length lying on the northeast flank of the structure (R. 262).

The formations of the field in which oil and gas have been so far encountered overlie one another, and though they are normally separated one from another by impervious strata, they are interconnected as is shown by the fact that the virgin pressure of the oil

and gas from all of them was 430 pounds per square inch at sea level, regardless of the location in the field.

Gas was first discovered in northern Potter County, Texas, in December , 1918, and was encountered at a depth of 2,605 feet. The gas production for several years was developed only incidentally in the search for oil. The first important oil was discovered in 1925 and the major oil pools were developed in 1926 and 1927. The development of the gas field became prominent about 1926, and continued until 1929 when it was temporarily halted by the "depression." Since 1932 the gas field has been developed at a very rapid rate. The oil wells in the oil pools in the field were, as a general rule, drilled through one or more gas-containing strata before entering the oil-containing stratum, and, in many instances the wells were so completed as to cause production of gas from the gas strata along with the oil and gas from the oil stratum, with the result that tremendous quantities of gas have been produced with the oil, large portions of it coming from gas-producing strata above the oil-producing strata. This gas was in large part blown into the air, and it has been estimated that in excess of two trillion cubic feet of gas produced in this manner has been wasted into the air (R. 323-324).

Coincident with the development of the Borger pool, casinghead gasoline plants were erected therein in which considerable portions of the gas produced therein were processed for the extraction of the gasoline content thereof, and, there being no market for the stripped gas, called "residue gas," resulting from the operations of said plants, the bulk of such residue

gas was wasted into the air. In varying degrees, the same is true of the other oil pools as they were developed and operated.

The Panhandle Field is so far removed from centers of population and industrial activity that little value was at first placed upon the enormous quantities of gas therein found, but, due to the development of the casinghead gasoline plants and the resultant abundant supply of cheap residue gas that was being wasted into the air, the carbon black industry was attracted to the area, and in September, 1926, the first carbon black plant was completed. It was located in the Borger pool, and proceeded to burn considerable quantities of such residue gas for the manufacture of carbon black. Thirty additional carbon black plants have since been built and placed in operation in the field. The combined throughput capacity of said plants is approximately 570,000,000 cubic feet of gas daily. In excess of 70 per cent of the carbon black manufactured in the United States is being manufactured in the Panhandle field (R. 324).

There are 1090 natural gas wells in the field, with a total daily open-flow potential of 17,231,183 M. C. F. Of this total 225 wells produce sour gas and these wells have a total open-flow potential of 2,099,985 M. C. F. daily. In the oil producing belt there are 2,527 oil wells producing from 27 different pools. Development throughout the Panhandle Field has long since proved it to be the largest known reserve of natural gas in the United States. The demand for gas for light and fuel uses was local and was relatively small, prior to 1926 (R. 264).

The construction of pipe lines began in January, 1926, when the Northern Texas Utilities Company started transporting gas to towns in Northern Texas, the principal one of which was Wichita Falls. In July of 1927, the Lone Star Gas Company started running gas into Northern Texas, principally into Ft. Worth and Dallas. In the early part of 1928, the South Plains Pipe Line Company and the Cities Service Gas Pipe Line Company started transporting gas from this field, the former into towns south of Amarillo in West Texas and the latter to Kansas City, Missouri. In June of that year, the Canadian River Gas Company began transporting gas into Colorado, principally into the cities of Denver and Pueblo. In November of that year, Texas Panhandle Gas Company began using its line to transport gas into Oklahoma and to Wichita, Kansas. There was relatively little development by pipe lines from this time until June of 1931, when the Panhandle Eastern Pipe Line Company began transporting gas through its line as far as Indianapolis, Indiana. In October of 1931, the Texoma Natural Gas Company began its operations. The gas transported by this line was carried to markets in Nebraska, Iowa, and Illinois, the principal market being Chicago and its vicinity. In May of 1932, the Northern Natural Gas Company began its operations in which it transported gas into Nebraska and Iowa, principally into the town of Des Moines, Iowa, and Minneapolis and St. Paul, Minnesota (R. 264).

The total length of these nine major pipe lines approximates 4,425 miles and the total capacity thereof is approximately 1,000,000,000 cubic feet of gas per

day. A daily average of approximately 300,000,000 cubic feet of gas was transported from the Panhandle Field through these lines during the year 1933 and a daily average of approximately 400,000,000 cubic feet of gas was being transported through said lines during the year 1934. As shown in the February, 1936, order of the Railroad Commission the demand for sweet gas for that month was 824,000,000 cubic feet daily (R. 325). These major pipe lines have acquired and now hold under lease approximately 850,000 acres of land, which is about 61 per cent of the total gas-producing area in the Panhandle Field, each such company separately owning and operating its own leases with the exception of those companies which purchase gas ratably. (R. 265).

Of the total area proven productive of sweet gas, these major companies own approximately 80 per cent. The demand for sour gas for light and fuel uses is restricted to isolated lease purposes (R. 326).

In addition to the major pipe lines there are ten additional pipe lines of lesser capacities serving local towns and cities in the immediate vicinity of the field with a throughput capacity of approximately 65,000,000 cubic feet of gas per day (R. 327).

The carbon black industry, including existing carbon black factories, equipment and residue gas transportation lines from natural gasoline plants, had become established in the Texas Panhandle oil and gas field prior to August 12, 1931, with the following exceptions:

1. About November, 1935, ground was broken for a carbon black factory in Moore County, Texas.

2. The factory of the Combined Carbon Company was constructed during the early part of 1935, preparation having been made during the latter part of the year 1934.

3. The United Carbon Factory at Sanford, Hutchinson County, Texas.

Prior to August 12, 1931, only casinghead gas residue was available for carbon black manufacture (R. 324-325).

Prior to August 12, 1931, there was no demand for sour gas from gaswells located in the Panhandle Field, except for local field use in open boilers and other similar equipment. There has never existed in the Panhandle Field a light and fuel demand for sour gas, i. e., gas with more than one and one-half grains of H_2S per hundred cubic feet except in limited quantities. The demand for sweet gas for light and fuel consumption is constantly and substantially increasing in the Panhandle Field, while the demand for gas for carbon black manufacture, though increasing slightly, is comparatively static (R. 325).

2. The Act reasonably regulates the utilization of natural gas.

Before stressing the significance of certain facts material to a consideration of the constitutional questions involved it will be quite helpful to analyze *Walls v. Midland Carbon Company*, 254 U. S. 300, 65 L. Ed. 276, 41 S. Ct. 118. Although each member of this court is thoroughly familiar with the case, its holding is so decisive of the questions raised in the case at bar

that liberty is taken to make a rather extended analysis. Under the operation of the Wyoming statutes involved in *Walls v. Midland Carbon Company*, the investment of the carbon company in its carbon black plant was completely destroyed because it happened to be utilizing gas from a source of supply which the State of Wyoming decided should be used only for fuel purposes. The operations of the Appellant under House Bill No. 266 are only restricted.

The first section of the Wyoming Statute reads:

> "The use, consumption or burning of natural gas taken or drawn from any natural gas well or wells, or borings from which natural gas is produced for the products where such natural gas is burned, consumed or otherwise wasted without the heat therein contained being fully and actually applied and utilized for other manufacturing purposes or domestic purposes is hereby declared to be a wasteful and extravagant use of natural gas and shall be unlawful when such gas well or source of supply is located within 10 miles of any incorporated town or industrial plant."

> "Section 2 prohibits the use, sale, or other distribution of natural gas, the product of any well owned, leased, or managed by any person for the purpose of manufacturing or producing carbon or other resultant products from the burning or consumption of such gas, without the heat therein being fully and actually utilized for other manufacturing purposes or domestic purposes. Violations are made misdemeanors."

The court, in analyzing the points of attack, said:

> "There are two elements, therefore, to be considered: (1) The distance of the wells from an

incorporated town or industrial plant; (2) the element of heat utilization for manufacturing or domestic purposes. These elements are the determinating ones in the accusations against the law. The first is the basis of the discrimination charged against it; the second is the basis of the charge that the law deprives the companies of their property by the ruin of their business and capital investments, and impairs the obligations of pre-existing contracts."

That Midland Carbon Company made the identical approach that appellant made in this case, is seen from the court's reference to the pleadings.

> "The uses of carbon black are enumerated, and it is alleged that no form of it possessing the same properties and the wide variety of uses can be commercially manufactured from any material or substance other than natural gas.
>
> "The origin of the industry and the uses of its product are variously detailed, and it is alleged that the company's factory is so conducted as to permit no waste; that the best known processes and appliances are employed, and that the operation of the gasolene absorption plant and the recovery of gasolene from the gas supplied by the wells would be impossible if the carbon plant should cease to be operated, for the reason that the gas cannot be sold to other users in that locality in sufficient quantities to render the extraction of gasolene therefrom commercially profitable."

In concluding that the Wyoming Act was valid, the Court rested its decision upon *Bacon vs. Walker* 204 U. S. 314, 27 Sup. Ct. 290, 51 L. ed. 499, and *Ohio Oil Company v. Indiana*, 117 U. S. 190, 20 Sup. Ct. 576, 44 L. ed. 729. Upon the authority of these

cases, the Court analyzes the power of the state, with respect to this type of legislation, as follows:

> "It was hence decided that the power of the state can be manifested for the purpose of protecting all the collective owners, by securing a just distribution to arise from the enjoyment of them of their privilege to reduce to possession and to reach the like end by preventing waste.
>
> . . . . . .
>
> "To the contention that oil could not be taken at a profit by one who made no use of the gas, it was replied that such fact went not to the power to make regulations but to their wisdom. And this can be said of the contention in the case at bar that one element is more valuable than another, that carbon black is more valuable than the gas from which it is extracted. * * *"
>
> . . . . . .
>
> "Of the range of the utility of carbon black, there can be no controversy; and to this fact the companies give an especial emphasis in their averments, supplementary affidavits, and argument. The fact, however, is but of incidental importance. The determining consideration is the power of the state over, and its regulation of, a property in which others besides the companies may have rights, and in which the state has an interest to adjust and preserve, natural gas being one of the resources of the state. And in this consideration it is more important to consider not for what a particular owner uses the gas, but the proportion of his use to that of others; or, it may be, the prevention of use by others; and the striking fact is presented by the companies' averments that by the processes and devices employed by them there is only obtained from each thousand cubic feet

of natural gas consumed 1-3/4 pounds of carbon black and 2/10 of a gallon of high-gravity gasolene.

. . . . . .

*"Manifestly conceding a power to the state of regulation, a comparison of the value of the industries and a judgment upon them as affecting the state was for it to make. Such comparison may, therefore be put aside. * * *"*

. . . . . .

"We have seen that the method of production by natural gas is like holding a cold plate over a candle, or, as it is expressed by a witness, it can only be produced by combustion and the impinging of the flame on the metallic surface and there is great disproportion between the gas and the production and necessarily there was presented to the judgment and policy of the state a comparison of utility which involved as well the preservation of the natural resources of the state and the equal participation in them by the people of the state and the duration of this utility was for the consideration of the state and we do not think that the state was required by the Constitution of the United States to stand idly by while these resources were disproportionately used or used in such way that tended to their depletion, having no power of interference."

. . . . . .

The Legislature of Texas had before it the identical problem that faced the Wyoming lawmakers. The Texas dilemma, however, was one of larger proportions. Instead of dealing with thousands and millions of cubic feet of gas the Texas problem was appraised in terms of billions and trillions of cubic feet of gas. In Wyoming ten million cubic feet of natural gas was

utilized for carbon black manufacture, while in Texas four hundred million cubic feet was utilized. In the area involved in the Wyoming case the demand of gas for light and fuel uses was scarcely greater than the demand needed for carbon black manufacture, while the demand for fuel gas produced in the Texas Panhandle approached a billion cubic feet per day.

It was under such circumstances that the State chose to conserve its supply of gas for fuel in the presence of the daily demand in the Panhandle field of almost one billion cubic feet.

Another striking resemblance between the cases is found in the statement:

> "And it is alleged that, by preventing the use of the gas for the manufacture of carbon black, the towns of Lovell and Cowley, and all industrial plants therein, will be afforded a supply of gas for all domestic and industrial purposes for a period of thirty years."

Under the estimates of the witness Hughes placing the sweet gas reserves at ten trillion cubic feet (R. 143), the supply of sweet gas in the Panhandle will last approximately thirty years.

The Texas Legislature, like the Wyoming Legislature, taking into account the beneficial use of carbon black, appraising the small amount of carbon derived from 1000 cubic feet of gas, taking into account the efficiency of the channel process, assessing the value of the use of gas for fuel in the face of a daily demand of one billion cubic feet, chose to restrict for fuel use a kind of gas especially adapted to that use in its nat-

ural state. Why would it not be wasteful under such circumstances to permit carbon black manufacture from sweet gas in the face of an existing daily demand of one billion cubic feet especially when only one pound of carbon in thirty is recovered per 1000 cubic feet of gas, albeit that no other way is presently known to make the kind of carbon black necessary in the manufacture of rubber tires and printers' ink?

At the same time the Texas Legislature prohibited carbon black manufacture from sweet gas as wasteful, it protected the gas owners interest in the gas by reason of its greater value when sold for fuel uses, by reason of the greater value of sweet gas acreage than sour gas acreage, and it likewise protected the interest of the State in taxation.

The question next arises, did the State conserve its sweet gas well supply by a method that was arbitrary or capricious by prescribing the uses indicated?

Far from that! The complainants in the case at bar were treated far better than the State of Wyoming treated Midland Carbon Company. As indicated Midland Carbon Company was annihilated. The Appellant's operations are only curtailed. In the light of the following considerations, the method of the State prohibited an unnecessary dissipation of its sweet gas and at the same time afforded protection to owners of other kinds of gas and to persons interested in utilizing gas in carbon black manufacture.

Since it is the application of House Bill 266 to the Panhandle field that is involved conditions there will determine the standard of reasonableness.

Owners of sour gas unable to compete with sweet gas in the fuel market, even in the presence of low cost treatment, are permitted under the act to sell their gas for carbon black manufacture. Owners of wells producing casinghead gas with oil in excess of the ratio prescribed by the Commission in some exceptional instances where the presence of water requires less restriction of production although producing gas free from sulphur may sell such gas for carbon black manufacture. Such wells, as a general rule, due to pressure conditions, cannot deliver gas into high pressure transportation lines.[1]

That constant and comparative relation between the fuel demand for sweet gas and the carbon black demand for sour gas, the sweet gas reserves and the sour gas reserves, the areal extent of sweet gas area and the sour gas area, the pipe line capacity for fuel and the intake capacity of carbon black plants, all serve to give to House Bill 266 a necessary operation and effect to conserve sweet gas for fuel under circumstances that

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[1]The utilization in the manufacture of carbon black of low-pressure gas, of gas escaping into the air from natural-gas gasoline plants, gas in distinctly isolated districts, and gas in fields that have been abandoned by other gas companies on account of low pressure is in reality often a conservation measure. It is preferable to the practice of letting the gas go to waste in the air, or to plugging improperly the wells so that the gas sands can be damaged from flooding by water. **Department of the Interior Bulletin No. 192, entitled Carbon Black—Its Manufacture, Properties and Uses.** (p. 51).

Carbon-black factories utilize gas from low-pressure wells; casinghead gas from which the gasoline content has been removed, and gas that would otherwise be wastd. (Ibid, p. 49).

the two major markets for gas in the Panhandle field afford the greatest opportunity for the greatest number of gas owners to produce and use or sell their gas. The affidavit of appellants witness Price (R. 173), pointing out that carbon black may be more economically made from sweet gas than sour gas due to the destructive effects of sour gas upon equipment makes it clear that had the Legislature permitted the use of all kinds of gas in carbon black manufacture the sweet gas reserves would have been subject to an additional and substantial dissipation for use in carbon black manufacture.

The negligible[1] demand for gas well gas to be used in gas lift, repressuring and efficient chemical manufacturing sustains as reasonable the statutory permission to use gas well gas of all kinds for such purposes, especially when economy, practicability and convenience in operations have established the practice of using gas for these purposes that is produced at or near the local areas in which the operation is necessary. This problem, however, was incidental to the more important problems of accommodating the interests of the State and owners of gas to two major demands for gas—fuel use and carbon black manufacture.

Appellant in this case, as did Midland Carbon Company in the cited case, pleaded the greater usefulness of carbon black, the efficient use of the channel process and the risks of drainage followed by the utter destruction of investment.

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[1]This was pleaded and proved by Appellant.

But the location of appellant's plant, purely accidental in so far as the enactment and enforcement of House Bill No. 266 is concerned, is not different than that of Midland Carbon Company or other owners of gas in the State of Wyoming, who unfortunately happened to be on or near the ten mile limit. Appellant's gasoline plant, as well as nearly all of the carbon black factories in the Panhandle, was erected prior to August 12, 1931, at a time "gas well" gas (either sweet or sour) could not lawfully be used in carbon black manufacture. In *Walls versus Midland Carbon Company* investments were made by the carbon company in the construction of its plant at a time it was lawful to use gas well gas in the manufacture of carbon black. Appellant in this case made its investment at a time the law of Texas was more restrictive in the way of use of gas for carbon black manufacture than it is under House Bill No. 266.

a. The channel process is wasteful and requires a disproportionate amount of the State's fuel supply.

It is not the contention of the State in this case that appellant is failing to make a reasonable efficient use of the channel process for manufacturing carbon black, but the State does contend that this process is inherently wasteful and that it requires a disproportionate amount of the State's fuel supply.

The Court's attention is directed to the following reliable source of information concerning carbon black, all within the scope of judicial knowledge.

1. *Department of Interior Bulletin No.* 192, entitled *"Carbon Black—Its Manufacture, Properties and Uses"* (1922)

2. *Department of Interior Technical Paper No.* 351, entitled *"The Electrical Manufacture of Carbon Black"* (1924)

3. *"Industrial & Engineering Chemistry" Vol.* 23, No. 6, June 1931 (Published by the American Chemical Society)

4. *"Chemical & Metallurgical Engineering"* Feb. 1936 (McCraw-Hull Pub. Co. New York)

From the above sources it is found that very little progress has been made in the carbon black industry during the past twenty-five years. At this time there are six commercial methods for producing carbon black, but during the year 1935, three hundred ten million pounds of carbon black was produced by the channel process employed by the Combined Carbon Company, while all other methods were producing forty million pounds.

In an article entitled *"Carbon Black Gains,"* printed at page ninety-five of the reliable trade journal entitled *"Chemical and Metallurgical Engineering,"* in February, 1936, and written by Mr. I. Drogin, Chief Chemist for J. M. Huber, Inc., we find some very interesting statistics on the manufacture of carbon black. The J. M. Huber Company is an important carbon black producer in the Texas Panhandle, and the figures used in this article are shown to have been taken from most reliable sources. (*Mineral Resources of the U. S.* 1931; *Mineral Yearbook* 1934; *Mineral Market Reports, May* 9, 1935). It is shown in this article that the recovery from one thousand feet of natural gas consumed in 1929 was 1.40 pounds, and that

in 1935 it was 1.43 pounds; and it is to be noted that these figures coincide with the recoveries had in the State of Wyoming at the time the case *Walls v. Midland Carbon Company* was tried.

By reference to *Bulletin* 192, published by the Department of Interior in 1922, it is seen that the percentage of recovery has remained stationery for the past thirty years. Various experiments have been made, but so far as we are aware, these experiments have not brought forth a practical process for making a greater amount of useful carbon black than that employed at present. Appellants' evidence established this. This is perhaps due to the fact that gas has been plentiful and that the industry has followed the line of least resistance, because the above mentioned authorities suggest other plausible processes that are thought feasible for development.

In the *Final Report of the Federal Trade Commission to the Senate of the United States, Document No. 92, Part No. 84-A*, it is said:

> "The carbon-black industry is another source of destruction of vast quantities of natural gas to recover about 1 pound of carbon black for 1,000 cubic feet of gas partially burned. The great bulk of the original energy in the gas escaping into the atmosphere as soot, more or less partially burned hydrocarbons, and as sensible heat. Carbon black produced from natural gas is reputed to be superior in quality and is cheaper to produce competitively when conducted in gas fields where gas may be obtained at 1 or 2 cents a thousand cubic feet. The carbon black industry has strongly tended to leave fields from which the available gas

has a good market at relatively high prices, as in West Virginia and the Appalachian area generally, and has established itself where a great abundance of gas existed without an adequate market so that any gas available could be procured at a few cents a thousand cubic feet." (Page 125).

These facts concerning the industry are well known, and the conditions under which it has existed have not lent themselves to improvement in methods.

> "Naturally the commercial employment of such new processes will be slow to be adopted so long as natural gas for carbon black manufacture may be obtained as plentifully and as cheaply as it is today. Yet in the light of our present knowledge, the present method of carbon black manufacture should be condemned as utterly wasteful." (R. 337).

The demand for carbon black is shown to have increased materially in the past fifteen years. According to *Department of Interior Bulletin No.* 192, the carbon black production of the United States in 1918 amounted to forty-three million, five hundred thousand pounds, and the total amount of gas consumed for carbon black purposes amounted to forty billion cubic feet.

According to the figures compiled by Mr. Drogin, Chief Chemist of J. M. Huber, Inc., we find that during the prosperous year of 1929, the United States produced three hundred sixty-six million, four hundred fifty thousand pounds of carbon black. The production fell off in 1931 and declined to two hundred forty-two million, seven hundred thousand

pounds in 1932, but it has steadily risen since that time, and during the year 1935 production amounted to three hundred fifty million pounds.

According to the reports of the Railroad Commission for the month of January, 1936, the Panhandle of Texas during this month produced twenty-seven million, five hundred fifty-eight thousand, three hundred two pounds of carbon black from twenty billion, sixty-five million, two hundred seventy-seven thousand cubic feet of gas.

b. The Carbon Black Industry is migratory, seeking a cheap and abundant supply of gas.

It is shown by the bulletins and the article above referred to that the carbon black industry has been on the move to keep up with flush gas fields over the country. *Department of Interior Bulletin No.* 192 shows that the State of West Virginia produced fifty per cent of the carbon black made in the United States during the year 1922. *Department of Interior Bulletin No.* 351, printed in 1924, shows that at the time this bulletin was prepared the State of Louisiana was the center of carbon black production in the United States.

In the year 1918 West Virginia produced thirty million pounds of black, while Louisiana produced eight million pounds, Wyoming three million pounds, Oklahoma one and one-half million pounds, and all other states one million pounds. At that time there was no reported production from Pennsylvania, where carbon black had been produced for forty years, and none from Texas, where substantially all of the car-

bon black is now made. In 1929 the State of West Virginia had dropped out of the picture, and Louisiana was producing one hundred twenty-seven million, three hundred fifty thousand pounds, Texas had two hundred twenty-eight million, one hundred eight thousand pounds, and all other states ten million, nine hundred twenty thousand pounds. In 1935 we find that Louisiana's production had dropped to forty million pounds, and that Texas was then producing nearly all of the remaining three hundred ten million pounds.

As said by Mr. Drogin, and as shown in *Department of Interior Bulletin No.* 192, "The carbon black industry depends upon a plentiful supply of natural gas available at a very low price."

> "In Louisiana the average price of gas is about 2 cents per thousand cubic feet; in Oklahoma the gas costs 5 to 6.5 cents per thousand cubic feet." Department of Interior Bulletin 192, p. 6.

From page forty-seven of this bulletin we quote the following:

> "Carbon-black plants operate until the price of gas rises on account of the supply being made available for domestic consumption by the construction or extension of pipe lines. Then the factories are dismantled and removed to more remote districts that have no other means for disposing of the gas. Thus the industry is necessarily migratory".

From the foregoing information, it is not surprising to find the carbon black industry concentrated in the Panhandle field. Under Article 6008 of the Re-

vised Civil Statutes of Texas, which was amended in 1933, the State of Texas prohibited the use of "Gas well" gas (sweet and sour) for carbon black. This Article was amended so as to permit "gas well" gas to be used for any beneficial purpose in the fields containing more than 300,000 acres. At the time of this amendment, however, Texas was producing two hundred fourteen million, eight hundred sixty thousand pounds of carbon black from casinghead gas from oil wells.

It is shown that the Combined Carbon Company's plant was erected in the year 1935, and that the amendment to Article 6008 allowing gas to be used for any beneficial purpose did not materially increase the number of plants located in the Panhandle field. Plants are in the Panhandle field for the same reason that they came into the states of West Virginia and Louisiana, and that is because the region has been more or less isolated and because of the abundant supply of cheap natural gas. Now that this supply of natural gas has been connected by pipe line to a great many metropolitan centers, we think it quite logical for the State of Texas to insure the conservation of this supply of gas for light and fuel purposes.

The question is as to whether it is conservation of a State's gas supply to allow an industry that used twenty billion feet of gas in January, 1936, to use sweet gas when sour gas will serve its purpose.

The policy of the Bureau of Mines with reference to the use of gas for manufacturing carbon black is

shown on page 45 of Department of Interior Bulletin No. 192, and stated as follows:

> "That carbon black be made when gas is produced in isolated sections with no present or reasonably prospective market for gas being afforded, when gasoline has been extracted, and when practical and modern and improved methods are used."

The attitude of the gas producing states is reflected in the conservation laws to which reference has been made. We submit that the State of Texas has been very generous with the carbon black industry. It is granted that House Bill No. 266 designates manufacturing of carbon black an inferior use of natural gas, but with this law on the statute books, it is revealed that the Panhandle field alone produced more than twenty-seven million pounds of carbon black during the month of January. This shows that the carbon black industry has not been hurt by the passage of this law, even though the State of Texas did become alarmed at the fact that this industry was consuming more than twenty billion cubic feet per month.

3. The State's Interest in the Conservation of Sweet Gas for Light and Fuel Purposes and the Devotion of such Gas to the most beneficial uses sustains the Regulations.

According to the Final Report of the Federal Trades Commission to the Senate of the United States, *Document No. 92, Part 84A*, it is shown that more than seven million people depend upon natural gas for domestic fuel, and that the Panhandle gas field is decidedly the most reliable source of supply. In addition to this domestic consumption this report also shows

a tremendous industrial consumption. We think it nothing more than fair for the State of Texas to require the carbon black industry to use the type of gas unfit in its natural state for light and fuel, although equally productive of carbon black pigment. There is no necessity for Texas to permit the use of sweet dry gas for carbon black, and permit her fuel supply to be exhausted or depleted. Particularly is this true when under the operation of the statute in excess of two trillion cubic feet of sour gas (at the most conservative estimate) is dedicated to the use of the carbon black manufacturer (R. 143), and in addition he is permitted to use casinghead gas produced from oil wells. Depletion and exhaustion follow in the wake of carbon black production. Such is the history of the industry. Under present methods it is inherently destructive of the nation's most valuable fuel supply. Certainly the Legislature has the right to choose a course of conduct that will conserve fuel and that will stimulate the carbon black industry to provide a process that is less detrimental to our natural resources. If the court says the State is powerless to restrict the carbon industry to the use of sour gas, then we will doubt the State's power to prevent the manufacture of natural gasoline, which is also a very useful product. In each case the effect on the fuel supply is the same,—the gas is gone forever, and the difference is in the degree of loss and not in the State policy.

It appears that in some localities in West Virginia, where gas formerly sold for 2.5 cents per thousand cubic feet, the price increased suddenly to 8 cents upon the introduction of compression plants and transpor-

tation lines, and that the carbon black manufacturers were then unable to compete with gas distribution companies. (*Department of Interior Bulletin No. 192, p. 11.*)

Mr. Drogin says (p. 95, *"Chemical & Metallurgical Engineering," February, 1936*):

> "It (the carbon black industry) has migrated steadily southwestward, first in Pennsylvania, then in West Virginia, the Monree gas field in North Louisiana, Kentucky, the Breckenridge and Caddo gas fields in Texas, Oklahoma, Utah, Montana, and Wyoming. And now the bulk of the industry is centered in the Panhandle district of North Texas where approximately 85 per cent of the carbon black is produced."

In addition to *Walls v. Midland Carbon Company* the case of *Lindsey v. Natural Carbonic Gas Company*, 220 U. S. 61, 31 S. Ct. 337, 55 L. ed. 361, is compelling authority by reason of its close analogy to the case at bar.

Just as there are some producers and owners of gas in the State of Texas who desire to use gas for fuel and others who desire to use gas for carbon black manufacture, so in the State of New York there were some who desired to use a mineral water solely for its carbonic acid gas content and others who desired to use the mineral water for medicinal purposes in its natural state. In order to adjust this conflict of rights and desires the State of New York enacted the following statute:

> " 'Pumping, or otherwise drawing by artificial appliance, from any well made by boring or drill-

ing into the rock, that class of mineral waters holding in solution natural mineral salts and an excess of carbonic acid gas, or pumping, or by any artificial contrivance whatsoever in any manner producing, an unnatural flow of carbonic acid gas issuing from or contained in any well made by boring or drilling into the rock, for the purpose of extracting, collecting, compressing, liquifying, or vending such gas as a commodity otherwise than in connection with the mineral water and the other mineral ingredients with which it was associated, is hereby declared to be unlawful.' Laws 1908, Vol. 2, Chap. 429, p. 1221."

In applying the rule of decision in *Ohio Oil Company versus Indiana*, 177 U. S. 190, 44 L. ed. 729, 20 S. Ct. 576, and referring to the Indiana statute by way of comparison to the New York statute, the court said:

"If the statute there assailed did not work a deprivation of property without due process of law, it is difficult to perceive that there is any such deprivation in the present case. The mineral waters and carbonic acid gas exist in a commingled state in the underlying rock, and neither can be drawn out without the other. They are of value in their commingled form and also when separated, but the greater demand is for the gas alone. Influenced by this demand, some surface owners, having wells bored or drilled into the rock, engaged in extensive pumping operations for the purpose of collecting the gas and vending it as a separate commodity. Usually where this is done an undue proportion of the commingled waters and gas is taken from the common supply, and a large, if not the larger, portion of the waters from which the gas is collected is permitted to run to waste. Thus these pumping operations general-

ly result in an unreasonable and wasteful depletion of the common supply and in a corresponding injury to others equally entitled to resort to it. It is to correct this evil that the statute was adopted, and the remedy which it applies is an enforced discontinuance of the excessive and waseful features of the pumping. It does not take from any surface owner the right to tap the underlying rock and to draw from the common supply, but, consistently with the continued existence of that right, so regulates its exercise as reasonably to conserve the interests of all who possess it. That the state, consistently with due process of law, may do this, is a necessary conclusion from the decision in the case cited. But were the question an open one, we still should solve it in the same way."

III.

Appellant is not denied equal protection of the law by reason of the prohibition against the use of sweet gas in the manufacture of carbon black. The Classifications and Definitions complained of are reasonable and logical, and based upon the natural uses to which such gas may be subjected, and the conditions and circumstances actually existing in the Panhandle gas field, and the same bear a reasonable relation to the purposes for which the statute was enacted—the protection of the paramount interests of the State and the correlative rights of owners of natural gas in common reservoirs.

1. The classification as to uses is reasonable.

The evidence presented in behalf of appellees established that there are substantial differences existing between the classes of gas; and that the definitions contained in House Bill No. 266 of sweet and sour gas are logical demarcations admirably suited to the actual conditions existing in the Panhandle field. The

evidence bearing upon the question of whether the Legislature has reasonably exercised its power to classify sweet and sour gas as to utilization establishes that there are numerous substantial bases upon which such classification rests:

1. Sweet gas in its natural state is usable for carbon black and for light and fuel. Sour gas in its natural state is usable for carbon black but not usable for light and fuel. Each have substantially the same B.T.U. content and equal carbon black productivity, but sour gas must undergo treatment before it can be put into pipe line for domestic and industrial use (R. 303, 322).

2. The physical situation in the field supports the classification, in that the sweet gas zone lies in the southern part of the Western Field while sour gas is encountered in the northern part of the West Field. No sour gas is encountered in the East Field (Wheeler County) (R. 299).

   (a) The legislative classification permits the use of casinghead and sour gas for carbon black purposes. The sour gas zone narrows sharply as it approaches the east end of the West Field and broadens toward the West. The sour gas and oil areas lie adjacent to or within each other (R. 299).
   (b) The natural gasoline plants which strip gas of its gasoline content, from which stripping process there is a residue, and the

carbon black factories themselves were built and erected north of or in the vicinity of the sour gas line in, locations readily and generally accessible to the sour and casinghead gas supply. These plants are also accessible to adjacent sweet gas area (Map attached to affidavit of Witness Crowell).

3. The sweet gas zone is held or controlled by pipe line companies using gas for domestic and fuel purposes. Eighty per cent of the sweet West Panhandle field is owned by major companies and the remainder of the sweet gas zone is owned by minor pipe line companies and a few independent operators (R. 326-327).

4. The investments in carbon black plants and natural gasoline plants, were made based on the use of casinghead gas, the original investments in general not being based on the use of sweet natural gas as a source of supply for natural gasoline plants and carbon black factories. Only three of the thirty carbon black plants in the field were constructed after the use of dry natural gas for the manufacture of carbon black had become legal. Two of these plants were constructed for the purpose of using residue gas from gasoline plants which processed both sweet and sour gas. The third plant is being constructed to use sour dry gas residue (R. 300).

5. The present intake of carbon black plants is

9/10th sour and casinghead gas and only 1/10th sweet gas (R. 300).

6. The ratio and relation of sweet gas reserves and sour gas reserves is commensurate with the present demand for sweet and sour gas taking into consideration the greatly increasing demand for gas for light and fuel purposes and the slowly increasing demand for gas for carbon black manufacture (R. 335, 294).

7. Gas sold for light and fuel purposes brings on an average a substantially higher price than gas sold for carbon black manufacture and stripping purposes (R. 302).

8. To permit the manufacture of carbon black from sweet gas would result in the eventual abandonment of the sour gas zones by carbon black manufacturers and their disproportionate taking of sweet gas, since sweet gas does not have a deteriorating effect upon the carbon black plant (R. 173).

9. The invasion of the sweet gas zone by the carbon black manufacturer would result
   (a) in disproportionate production as between the sweet and sour gas zones, and
   (b) in unequal withdrawals in the sweet gas zone through the imposition of a double demand upon the sweet gas zone.

10. The importance of the Panhandle field as a source of supply for light and fuel for far flung areas of the continental United States.

ranging from Indianapolis in the East to Denver, Colorado, in the West, calls for a safeguarding of this great fuel supply. To permit the use of sweet gas for carbon black would subject this supply of sweet gas available for light and fuel purposes without treatment to a double demand while leaving the sour gas zone without a market (Exhibit 80, Map of Natural Gas Trunk Pipe Lines in the United States).

11. The Appellant having plead and proved that pressures in the sour gas zone are in general lower than those in the sweet gas zone, it is logical that such low pressure wells there located which are incapable of being produced into a pipe line (if sour gas were taken by the pipe line companies) should be utilized for carbon black manufacture.

12. Likewise by reason of the proximity of the sour gas zone to the casinghead gas wells in the oil field, casinghead gas may be utilized for the manufacture of carbon black as a substitute for dry sour gas, thus conserving large amounts of casinghead gas that would otherwise be subject to wastage, which policy the Railroad Commission has adopted (R. 294, 295).

13. The investment necessary for each thousand cubic feet of gas handled is approximately ten times larger in a public utility plant than in a carbon-black factory. *Department of the*

Interior, Bulletin No. 192, entitled *Carbon Black—Its Manufacture, Properties, and Uses*, p. 51.

14. There is no demand for sour gas for light and fuel purposes, except for isolated lease uses (R. 325).

15. The classification in describing preferential uses to gases having different chemical characteristics, and affording to owners having otherwise only a limited market an outlet for gas serves the public interest in requiring the maximum utilization of gas, and protects the correlative rights of individuals to produce and market gas from a common reservoir by providing opportunities to produce gas over the entire field.

It is certainly competent for the Legislature in the exercise of its legislative power to make such regulations within the exercise of such power as have a rational basis for the legislative judgment and which classifications are supported by local conditions, and unless the legislative choice is shown to be wholly irrational or arbitrary, it cannot be said that the classification is wrong. There must be some latitude allowed the legislative appraisement of conditions and to its choice of the methods of meeting the problems and evils as may present themselves. It is the contention of the Appellees that the classification of uses which are set out in Section 7 of House Bill 266 is a reasonable and rational one and the most logical and apt classification that could have been made.

The Legislature of the State of Texas was confronted with the problems of the largest gas field in the world, a field which produces tremendous quantities of three distinct types of gas—casinghead, sour and sweet. Substantial differences exists between these three types of gas, and the uses to which they can and have been subjected. These are practical distinctions. The Legislature was confronted with a condition, not a theory. Sour gas in its natural state cannot be used for light and fuel purposes. Its corrosive effect would in a short time destroy pipe lines attempting to convey it to distant domestic and industrial markets. Its odor is such that it could not be used for domestic or industrial purposes, and the use of such gas would be detrimental to the health of domestic consumers (R. 303). The fuel and light market therefore is forever closed to it until it is subjected to treatment to eliminate its hydrogen sulphide content to that point where it may safely be taken into a pipe line. These facts, we think, are clearly established not only by the affidavits of witnesses for appellees but by the testimony adduced by the appellant.

The physical features of the field demonstrates the reasonableness of the classification made by the Legislature between the uses to which sour gas and sweet gas may be subjected. The maps and exhibits introduced in evidence show that the gasoline plants and carbon black factories were erected north or in the vicinity of the sour-sweet gas line, or in locations readily accessible to sour or casinghead gas; or in other words, in the sour gas or oil zones. The supply of gas going to carbon black factories comes from these

gasoline plants, as these carbon black factories require more than the production of few wells.

Under the act the carbon black is allowed the use of both sour and casinghead gas. It is certainly not difficult to conclude that the physical situation in the field sustains the grouping of casinghead gas and sour gas rather than a grouping of casinghead gas and sweet gas. A grouping of sour and sweet gas for carbon black purposes would inevitably leave a tremendous amount of casinghead gas without a market of any character, the inevitable result being that such gas would be blown into the air and wasted.

The evidence further establishes that the differences in ownership form another logical basis for the classification of uses, since, in general, the sweet gas zone is owned or controlled by pipe line companies serving light and fuel markets. The investments of these companies were made upon the natural classification of sweet gas for light and fuel purposes just as the investments of the carbon black manufacturers and casinghead gasoline operators were made upon the natural classification of casinghead and sour gas for stripping and carbon black purposes. The State introduced evidence showing that the investments made in the carbon black industry and the foundation of its establishment rest in the use of casinghead gas and not natural dry gas (R. 324).

The classification aptly fits the present picture and situation actually existing in the field today. Of the intake into carbon black factories only ten per cent is sweet gas while nine-tenths of such intake is sour and casinghead gas.

According to the testimony of the appellees witness T. C. Craig (R. 333-335), the present recoverable gas reserve in the Panhandle field is 22,190,000,000,000 cubic feet of gas, of which reserve 15,960,000,000,000 cubic feet is sweet gas, and 6,230,000,000,000 cubic feet is sour gas, or a ratio of sweet gas to sour gas of approximately two and one-half to one. Expressed otherwise, the recoverable sour gas is 28.1 of the total recoverable gas (R. 294). Under the order of the Railroad Commission fixing the allowable for the month of February, 1936, the estimated sweet gas demand was fixed at 378,693,000 cubic feet per day, while the estimated sweet gas demand was fixed at 848,852,000 cubic feet of gas per day, which fixes a ratio of sour gas demand to total demand for natural gas in the field at 30.9 per cent[1] (R. 295). The difference between the ratios of sour gas demand and sour gas reserve is only 2.8. With this small difference between the ratio of sour gas demand and total gas demand, and the ratio between sour gas reserve and total gas reserve, when it is considered that the sweet gas demand is increasing, while the sour gas demand remains relatively static, the close correlation of the ratios between reserve and demand is apparent.

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[1]By its February, 1936, order the Railroad Commission adopted the policy of requiring casinghead gas to be taken for carbon black purposes (which has been heretofore done voluntarily by some operators), which policy is rendered possible by reason of the proximity of the sour gas zone and carbon black plants to the oil field area. (R. 295). This reduced the estimated sour gas demand to a little less than 15% of the potentials.

The evidence in these cases establishes the fact that gas sold for light and fuel purposes brings on an average a substantially higher price than gas sold for carbon black manufacture. In other words, there is an economic difference between these two gases, which, of course, calls for and justifies different treatments and regulations on the part of the Legislature, since in classifying the Legislature may take into consideration these differences in value due to the State's interest in problems of taxation.

The Senate Investigating Committee found that at the time of its report the price of gasoline was about 1½ cents per gallon and the gasoline content of dry gas about one gallon to each 3000 cubic feet. That the income to the land owner from gas stripped of its gasoline content and then blown into the air was one-eighth of from ten to twenty-five per cent of the value of the natural gasoline. When the residue from the gasoline stripping plant was sold for carbon black purposes the income from the gas was increased by one-eighth of one cent additional. When gas was produced for stripping purposes the value to the land owner per section of land varied from an estimated minimum of $1,184.00 to an estimated maximum of $2,960.00 When gas from a section of land was used for heat and light purposes the value to the landowner was from $24,000.00 minimum to approximately $48,000.00 maximum, the value for stripping purposes being realized over a period of five years, whereas the value for light and fuel purposes would be spread over an estimated period of 75 years (R. 341-342).

The witness DuBose testified that at the time of

the trial that the average prevailing price for gas used for light and fuel from the Panhandle field is in excess of three cents per thousand cubic feet, while the prevailing price for gas used for carbon black ranges from six-tenths of one cent to one and one-half cents per thousand cubic feet (R. 333). The actual price paid by Combined Carbon Company to Appellant for residue gas delivered to it is one-half cent per thousand cubic feet (R. 213).

A comparison of the investment of operator who produces for the light and fuel market and of the operator who burns gas for carbon black shows an even greater discrepancy between gas used for light and fuel and gas used for carbon black.

In *Carbon Black—Its Manufacture, Properties and Uses (Department of the Interior Bulletin* No. 192) it is stated:

> "The investment necessary for each thousand cubic feet of gas handled will be about ten times larger in a public utility plant than in a carbon-black factory." (p. 51).

Carbon black factories can be located in the gas fields themselves. Hence, there is little expense involved in bringing the gas to the plant, and the cost of the gas at the plant is low compared to the cost of natural gas which is used for other purposes (R. 302).

The classification is supported upon the substantial ground that to permit the use of sweet gas in the manufacture of carbon black would inevitably result in the sour gas owner being deprived of his only market, bring about a migration of the carbon black

plants from the sour to the sweet gas area, and the disruption of the present investment setup. The evidence bearing on this basis of the classification is adduced not only from the witnesses of the respondents, but clearly appears from the testimony adduced from the appellant's witnesses. The appellant's witness, Mr. Howard Price, (R. 173) states:

> "The presence of hydrogen sulphide in sour gas does not affect the production of carbon black from the gas either one way or the other; in fact sweet gas can be more economically used in the manufacture of carbon black than sour gas for the reason that the presence of hydrogen sulphide in sour gas has a deteriorating affect upon the carbon black plant itself, the extent of injury to the plant equipment depends on the amount of hydrogen sulphide in the gas; therefore, considered from a truly economical standpoint there is economically less waste in manufacturing carbon black from sweet gas than from sour gas."

Of course, if sour gas has a deteriorating affect on the pipe line leading from the gasoline plant to the carbon black factory it would have a multiplied deteriorating affect upon the pipe lines of the companies supplying distant light and fuel markets. But the point we desire to emphasize with respect to this testimony is, that it being more economical for the carbon black operator to utilize sweet gas in his operations, the carbon black plant utilizing sweet gas will have a distinct advantage over the plant utilizing sour gas. Natural economic tendencies, therefore, would readily drive the carbon black industry into the sweet gas zone where a gas more economical for its purposes is encountered. The sour gas zone has no light and fuel

market. It would have no market for the only commercial use to which outlet sour gas is adapted—carbon black. The sweet gas zone would be subjected to a double market demand, while the sour gas area would be left wholly without a market. The inevitable result would be disproportionate takings from the sweet gas zone, the subjection of the sweet gas zone to a double demand for both major uses for gas—light and fuel and carbon black, land and interests in the sour gas zone would be rendered worthless, there would be no orderly or uniform development of the field; and the evils of concentrated withdrawals, bringing about a condition where tremendous quantities of gas will remain unrecoverable in the reservoir, would inevitably follow.

On the trial of this case it was established if not already a matter of judicial knowledge, that the sweet gas reserve of the Panhandle field constitutes the greatest source of supply for millions of customers in distant cities and communities in the United States, from Indianapolis to Denver, Colorado, and including the great market centers of Chicago, Minneapolis, St. Paul, Sioux Falls. It is certainly a matter of legislative concern that this great source of supply should be conserved at least to the extent of requiring that gas usable for pipe lines purposes should not be used for another purpose for which another class of gas is abundantly available.

2. The Authorities sustain the Reasonableness of the Classification of Uses.

As we view it one who attacks a legislative classification as violative of his constitutional rights must

show that such classification is wholly arbitrary. It is not sufficient to say that the Legislature did not adopt the best remedy or the most logical course, or that the Legislature did not adopt a course which others might have adopted, or that others would have adopted a far different course than the course adopted by the Legislature. It is sufficient to uphold the legislative classification to show that the classification is based upon a substantial difference, and bears a reasonable relation to a solution of the problem sought to be solved. As was said by this court in the case of *Ohio ex rel. Clark-Stone v. Deckebach*, 274 U. S. 392, 71 L. Ed. 1115, 47 S. Ct. 630, in passing upon an ordinance of the city of Cincinnati which forbade the issuance of a pool or billard license to aliens:

> "It is enough for present purposes that the ordinance in the light of facts admitted or generally assumed, does not preclude the possibility of a rational basis for the legislative judgment and that we have no such knowledge of local conditions as would enable us to say that it is clearly wrong.
>
> "Some latitude must be allowed for the legislative appraisement of local conditions and for the legislative choice of methods for controlling an apprehended evil. It was competent for the city to make such a choice not shown to be irrational, by excluding from the conduct of a dubious business an entire class rather than its objectional members selected by more empirical methods. The present regulation presupposes that aliens in Cincinnati are not as well qualified as citizens to engage in this business. It is not necessary that we be satisfied that this premise is well founded in experience."

In the case of *Ohio Oil Company v. Conway*, 281 U. S. 146, 74 L. Ed. 775, 49 S. Ct. 256, this court had for consideration a statute of the State of Louisiana levying a severance tax on oil based on the gravity of such commodity and running from four cents a barrel of 28 degree gravity to eleven cents a barrel on oil above 43 degrees gravity. After pointing out that the State may classify broadly the subject of taxation, but in doing so must proceed upon a rational basis and is not at liberty to resort to a classification that is palpably arbitrary, the court said as to the rule generally laid down with respect to classifications that such classifications "must rest upon some ground of difference having a fair and substantial relation to the object of the legislation so that all persons similarly circumstanced shall be treated alike." The court then pointed out:

> "In the present instance it is apparent that a classification according to gravity cannot be regarded as palpably arbitrary. While the Baume gravity of oils may vary, even in the same fields, it has been used by the oil industry as indicating in a general way, apparently satisfactory for practical purposes, the gasoline content. In laying a specific severance tax per barrel, the state was not compelled to make an exact determination of the composition of each oil produced. At least with respect to oils sold primarily for the gasoline they contained, it cannot be said that the state attempted a hostile and unjustifiable discrimination in graduating its tax according to gravity, when the industry itself resorted to the factor of gravity in fixing the scale of prices for such oils. * * *
>
> "The question raised by the complainant has particular bearing upon the discrimination with

respect to oils under 28 degrees' gravity. The complainant in this respect must stand on its own case. Its oil of this sort is its Urania production, and that oil, as well as that of the Bellevue field in North Louisiana, is said to be 'practically the same' as the coastal 'grade A' oils of South Louisiana. According to complainant's own showing, these oils are especially suited to the manufacture of lubricating oil and are dealt in with that in view. While in such cases, gravity is not the criterion, but rather viscosity and sulphur content, these are oils of relatively low gravity, that is, under 28 degrees, and the Louisiana severance tax is a uniform one of 4 cents a barrel. As these last mentioned oils had a distinct composition and a different utility, the state could impose a tax upon them which was different from that imposed upon the other oils produced by the complainant and not so well suited for the making of lubricating oil. The state might have concluded not to tax the former at all, and in that case there would have been no constitutional ground of complaint because a tax was laid on the different oils of the Haynesville, Cotton Valley and Pine Island fields."

Appellees submit that the classification which has here been made by the Legislature with respect to the uses to which sweet and sour gas may be put more than meets the rule laid down by the Supreme Court in the case of *Lindsley v. Natural Carbonic Gas Company*, 220 U. S. 61, 55 L. Ed. 369, 31 S. Ct. 337, which rule is as follows:

"1. The equal-protection clause of the 14th Amendment does not take from the state the power to classify in the adoption of police laws, but admits of the exercise of a wide scope of discre-

tion in that regard, and avoids what is done only when it is without any reasonable basis, and therefore is purely arbitrary. 2. A classification having some reasonable basis does not offend against that clause merely because it is not made with mathematical nicety, or because in practice it results in some inequality. 3. When the classification in such a law is called in question, if any state of facts reasonably can be conceived that would sustain it, the existence of that state of facts at the time the law was enacted must be assumed. 4. One who assails the classification in such a law must carry the burden of showing that it does not rest upon any reasonable basis, but is essentially arbitrary."

By the evidence which the State has submitted on the trial of this case we believe that it has unquestionably been established that numerous rational grounds of distinction existed to sustain the decision of the Legislature that sweet gas may not be used for carbon black. Among these grounds, as we have pointed out, are differences in chemical properties and composition, the physical situation of the sweet, sour, and oil zones; location of casinghead gas plants and carbon black factories, lease ownerships in the field, the investment basis of such plants and factories, the proportion of the present intake, the ratio of demand to reserve, comparisons in value, the need for uniform development and taking, the conservation of the sweet gas reserve, and the protection of correlative rights of all owners in the field. In the case of *Middleton v. Texas Power & Light Company*, 249 U. S. 152, 63 L. Ed. 527, 39 S. Ct. 227, this court in upholding the exclusion of railroad employees, domestic servants,

farm laborers, gin laborers and employees generally, where there are less than five under a single employer, from the operation of the Texas Workmen's Compensation act, said:

> "However, we are clear that the classification cannot be held to be arbitrary and unreasonable. The Supreme Court of Texas, in sustaining it, said (108 Tex. 110, 111, 185 S. W. 556, 11 N. C.C.A. 873): 'Employees of railroads, those of employers having less than five employees, domestic servants, farm laborers, and gin laborers are excluded from the operation of the act, but this was doubtless for reasons that the Legislature deemed sufficient. The nature of these several employments, the existence of other laws governing liability for injuries to railroad employees, known experience as to hazards and extent of accidental injuries to farm hands, gin hands, and domestic servants, were all matters no doubt considered by the Legislature in exempting them from the operation of the act. Distinctions in these and other respects between them and employees engaged in other industrial pursuits may, we think, be readily suggested. We are not justified in saying that the classification was purely arbitrary.'
>
> "*There is a strong presumption that a legislature understands and correctly appreciates the needs of its own people, that its laws are directed to problems made manifest by experience, and that its discriminations are based upon adequate grounds.* * * *
>
> "The burden being upon him who attacks a law for unconstitutionality, the courts need not be ingenious in searching for grounds of distinction to sustain a classification that may be subjected to criticism." (Italics ours.)

As we attempt to show in this brief, the Legislature is clearly within the sphere of its constitutional authority in regulating the production of gas, and in enacting suitable regulations governing the uses to which the same may be put, and its classification being reasonable, the effect upon the property of appellant or upon its contracts presents no valid objections to its exercise.

We assert that the classification of gas as sweet and sour, is sustained, not only on a scientific basis, but also upon the adaptability of such gases for the uses to which they are dedicated, and the physical facts existing in the Panhandle field itself; that the classification as to uses to which the gases may be put are founded upon reasons and grounds substantial and logical in their character and having direct and substantial relation to the purposes sought to be accomplished by the Legislature, i. e., the conservation of natural resources and the adjustment of correlative rights of all owners in a common reservoir.

Appellant makes the contention that the classification of uses constitutes an unjust and unconstitutional discrimination as against it; that the necessary effect of the operation of the act and the orders issued in pursuance thereto, will be to dedicate the sweet gas area of the field to a market not enjoyed by appellant, and monopolized by its more fortunate neighbors, the pipe line companies, and that in practical operation the act and orders will eventually cause the sweet gas under its properties to drain unto the lands of neighboring operators. House Bill No. 266, in prohibiting the use of sweet gas for the manufacture of carbon,

applies the classification to all affected alike. It does not allow the use of sweet gas for carbon black purposes to some operators and deny it to others. The prohibition is an all embracing one within the classification. It is clear that appellant's complaint is not that it is discriminated against because some operators owning or contracting for the production of sweet gas wells are permitted to use sweet gas for carbon black purposes, while it is not, but is directed to the classification of uses to which sweet and sour gas may be put. It is apparent that all of the same class in which appellant finds itself are treated alike, and there is no discrimination as between members of that class. This classification is one as to property and not as to persons, and it is submitted that so long as the act operates alike on all property similarly situated it is not subject to the objection that it constitutes special or class legislation, nor would it fall in the category of being violative of the federal guaranty of equal protection of the laws. There can be no charge of lack of uniformity within the class, since all persons owning the subject matter to which regulation is applied are treated alike under the same circumstances and conditions, and the classification in that aspect must be sustained.

The State assumes the position that, if appellant is in a situation to raise the question of discrimination, the statute we are considering works no denial of equal protection of the law violative of the 14th Amendment to the Federal Constitution in the respect contended for by it. In *Magoun v. Illinois Trust & Savings Bank*, 170 U. S. 283, 42 L. Ed. 1037, 18 S Ct. 594, this court aptly said:

"The clause of the 14th Amendment especially evoked is that which prohibits a State denying to any citizen the equal protection of the laws. What satisfies this equality has not been and probably never can be precisely defined. Generally it has been said that it 'only requires the same means and methods to be applied impartially to all the constituents of each class, so that the law shall operate equally and uniformly upon all persons in similar circumstances'. Kentucky Railroad Tax Cases, 115 U. S. 321. It does not prohibit legislation which is limited, either in the objects to which it is directed or by the territory within which it is to operate. It merely requires that all persons subjected to such legislation shall be treated alike under like circumstances and conditions, both in the privileges conferred and the liabilities imposed. Hayes v. Missouri, 120 U.S. 68. Similar citations could be multiplied. But what is the test of likeness and unlikeness of circumstances and conditions? These expressions have almost the generality of the principles that they are used to expound. And yet they are definite steps to precision and usefulness of definition, when connected with the facts of the cases in which they are employed. With these for illustration it may be safely said that the rule prescribes no rigid equality and permits to the discretion and wisdom of the State a wide latitude as far as interference by this court is concerned."

It is only the abuse of the power of which appellant may complain. The language of *Bacon v. Walker*, 204 U. S. 314, 51 L. Ed. 499, 27 S. Ct. 289, is in point:

"The selection of some limit is a legislative power and it is only against the *abuse* of power if at all, that the court may interpose."

In *Rast v. Van Deman & Lewis Co.*, 240 U. S. 342, 60 L. Ed. 679, 36 S. Ct. 370, this court said:

> "It makes no difference that the facts may be disputed or their effect opposed by argument, and opinion of serious strength. It is not within the competency of the courts to arbitrate in such contrariety."

Appellant asserts that the prohibition against the use of sweet gas for carbon black discriminates as between carbon black manufacturers and other manufacturers requiring the use of gas for fuel, in that no limitation is imposed upon the kind of product which may be manufactured by using natural gas, provided it is used for fuel. In other words, the statute does not impose any prohibition which would insure that the finished product would have a reasonable relation to the quantity of gas used as fuel for its manufacture (Appellant's Brief, p. 89).

It is of course no objection to the statute that it does not go to the length that the legislature might have been empowered to go. Nor should we be concerned with what at the most is only a hypothetical situation wherein gas as fuel is utilized for the manufacture of a product which will not equal in value the amount of the gas used. It can well be presumed that gas transported by pipe lines and sold at the point of ultimate consumption will not be uneconomically used, especially in view of the increased price at which gas is sold after such transportation. Appellant cites no instance where gas is utilized for fuel with the resulting product of less economic value than the amount of gas so used, but contents itself with

citation of a hypothetical situation where such condition might have been brought about.

We think that a complete answer to this argument is found in the recent case of *Bayside Fish Flour Company v. Gentry*, 297 U. S. 422, 80 L. Ed. 772, 56 S. Ct. 513. We desire to point out that this case involved a California statute regulating the canning, curing, etc., of sardines and the manufacture of fish flour, fish meal, and other products therefrom. The statute contained a provision to the effect that no reduction of fish should be permitted which would tend to deplete the species or result in waste or deterioration. *There was no limitation of this kind placed upon packers or canners of fish for food purposes.* This court upheld the statute as against the attack upon the ground that it was discriminatory, pointing out the distinction between the two kinds of business in the following language:

> "The purpose of the legislation under consideration is to prevent unnecessary waste, and to conserve for food the fish supply subject to state jurisdiction. See People v. Monterey Fish Products Co., 195 Cal. 548, 557-559. If the legislature was of the view—as evidently it was—that the process of packing on the whole would not interfere with the effectuation of this policy while the process of reduction would do so, unless carefully limited to prevent excessive operations, we are unable to perceive any reason for saying that such view was without reasonable basis. By the process of packing—that is, canning or preserving—fish, the original form of the edible portions of the fish is not destroyed as it is by the process of reduction, by which those portions are

broken down into a loose meal or flour. In the latter case it is obvious that the product may be readily diverted to other purposes than human consumption, such as chicken feed, fertilizer, etc. It is equally obvious that such a diversion is not likely to happen in the case of canning or preserving, where the edible portions retain their original solid form. The state also points out that the process of reduction is simple, and the quantity which can be reduced in a given period of time greatly exceeds what can be utilized by packing, which is a much slower and more complicated process. These differences are enough to bring the classification within the permissible range of state power, so far as the equal protection clause of the Fourteenth Amendment is concerned." (297 U. S. 430)

See also the recent case of *Pacific States Box & Basket Co. v. White*, 296 U. S. 176, 80 L. Ed. 138, 56 S. Ct. 159.

Now let us turn to the case which we believe is the paramount precedent and singlehanded and alone is decisive of this litigation, so far as the 14th Amendment to the Federal Constitution is concerned: *Walls v. Midland Carbon Company*, 254 U. S. 300, 65 L. Ed. 276, 41 S. Ct. 118. This case called into consideration by the court a Wyoming statute in which one section provided as follows:

"The use, consumption or burning of natural gas taken or drawn from any natural gas well or wells, or borings from which natural gas is produced for the products where such natural gas is burned, consumed or otherwise wasted without the heat therein contained being fully or actually

applied and utilized for other manufacturing purposes or domestic purposes, is hereby declared to be a wasteful and extravagant use of natural gas and shall be unlawful when such gas well or source of supply is located within 10 miles of any incorporated town or industrial plant."

The Midland Carbon Company was operating a carbon black plant within 10 miles of Cowley, Wyoming, at the time the law was enacted, using gas from wells located within the statutory circle, with substantial amounts invested in its plants and leases, and it challenged the validity of the law on the ground, among others, that it violated the equal protection guaranty of the 14th Amendment.

The controlling importance of this case is emphasized by the following observations:

1. It is the only decision by this court covering judicial treatment of a problem precisely similar to the problem here presented.

2. It is a decision by this court sustaining the validity of a statute wherein the Wyoming Legislature prescribed legislative treatment for a problem very similar to the treatment for a like problem prescribed in the Texas statute now under review.

3. It is an authoritative Federal decision adjudicating the validity of a state statute designed to accommodate the correlative rights of producers in a common reservoir to the various uses of gas.

4. It is the only Federal decision bearing upon the validity of a state statute akin to the statute here assailed, wherein the broad policy of conservation, the

individual's right to produce and use gas for various purposes and the public interest in the various uses of gas have been considered in their constitutional relations to each other.

4. It is the only Federal decision construing state statutes wherein the public interest in conservation, the right of the individual producer to produce his gas, and the correlative opportunities of all individuals to produce and market gas from a common reservoir, has been subjected to the legislative treatment of preferential uses, and applies with even stronger force to a statute prohibiting the use of one class of gas for a purpose for which the use of two other classes of gas which are adaptable thereto is permitted.

5. The decision sustains the validity of a statute which in accommodating correlative rights to use gas under existing economic standards, afforded protection and extension to a less valuable use.

6. The decision upholds a statute, which, like H. B. No. 266, prohibited the use to which certain gas might be put and permitted such use as to other gases.

7. The statute involved therein, like H. B. No. 266, drew a line of demarcation between certain areas. In the Walls case an arbitrary line within ten miles of any incorporated town or industrial plant was drawn, while in the instant case the line is based upon a scientific distinction between two types of gases, and the uses to which they are adapted.

8. It is evident that the situation appellant contends arises by reason of there being no physical barrier

to the application of gas from one zone to another was present in the Wells case, in that the Midland Natural Gas Company's neighborhood on the inside of the 10 mile circle using gas for domestic purposes would obtain from it, and likewise the operations of those outside the line who were subjecting the gas to less useful purposes would also receive advantage, the 10 mile line of demarcation forming no barrier to gas migration.

Our analysis of the decision is clearly borne out by the following quotations from the opinion:

> It will be observed that the act under review does not prohibit the use of natural gas absolutely. It prohibits, or by the use its words declares it to be a wasteful and extravagant use of the gas when it is burned or consumed without the heat therein contained being fully and actually applied and utilized for either manufacturing or domestic purposes. But not even that unlimitedly but only when the gas wells of any source of supply is located within 10 miles of any incorporated town or industrial plant. Such is the prohibition upon the use or consumer. There is a prohibition upon the owner or lessee of wells within the designated distance from a town or industrial plant to sell or dispose of the gas except under the specified conditions for the purpose of manufacturing carbon or other resultant products.
>
> "There are two elements therefore to be considered. (1) The distance of the wells from an incorporated town or industrial plant. 2. The element of heat utilization for manufacturing or domestic purposes. These elements are the determining ones in the accusations against the law. The first is the basis of the discrimination charged against it: the second is the basis of the charge that

the law deprives the companies of their property by the ruin of their business and capital investments, and impairs the obligations of pre-existing contracts.

"In Bacon v. Walker, 204 U. S. 312, 51 L. Ed. 499, a statute of Idaho was considered which made it unlawful, with consequent liability to damages, 'for any persons owning or having charge of the sheep to herd the same, or permit them to be herded on the land or possessory claims of other persons, or to herd the same or permit them to graze within 2 miles of the dwelling house of the owner or owners of said possessory claims.' The statute was sustained as a lawful exercise of the police power of the state, against the assertion of the right of one citizen to use the public domain as much as another citizen; and that to impose damages upon him for the exercise of the right deprived him of his property without due process of law, and besides arbitrarily discriminated between sheep grazing and the grazing of other kinds of stock. We there said in substance that the power of regulation existing, the imposition of some limit to a right when its exercise would impinge upon the equal right of another, was the exercise of legislative power and that the circumstances which induced it could not be pronounced illegal 'on surmise or on the barren letter of the statute.' And we said further, that where equal rights existed the state has an interest in their accommodation. Pertinent cases were cited and the exclusion from grazing within 2 miles of the possessory claim of another was decided to be legal, that 'the selection of some limit is a legislative power,' and that it was 'only against the abuse of the power, if at all, that the courts could interpose.' The mere distance expressed nothing." * * *

"It may be said however, indeed is said, that the purpose of the act or its effect is a discrimination between producers of carbon black—those 10 miles from a town or industrial plant not being within its provisions. We think the classification is justified by the case of Bacon v. Walker, 204 U. S. 312, 51 L. Ed. 499, and indeed, by the principles which determine classification.

"To the contention that the statute is not one of conservation, because carbon black factories are permitted if 10 miles distant from a town or industrial plant, the immediate answer is that it is for the state to determine not only if *any conservation* be necessary, but the *degree* of it; and certainly the companies can not complain if the state has not exerted its full power."

Appellant attempts to differentiate the *Walls* case on several grounds (Appellant's Brief, page 105).

It is said that in the *Walls* case the court no doubt considered the testimony to the effect that while gas contained from 33 to 40 pounds of carbon black per thousand cubic feet and the recovery of the carbon company was only 1 3/4 pounds per thousand cubic feet, and in the instant case there is no testimony refuting the fact that the element, carbon and carbon black are not synonymous, and it is undisputed that all of the carbon black contained in the gas is recovered. We answer that while practically all other industries have taken strides of progress since 1920 it is evident from a comparison of the facts of the two cases that no progress has been made in the carbon black industry since appellant actually recovers less carbon black than the Midland Carbon Company did in 1920. The same disproportion between the

amount of gas used and carbon black recovery exists in this case as existed in the *Walls* case. The court in the *Walls* case pointed to the disproportion between the gas and the product recovered, and pointed out that "necessarily there was presented to the judgment and policy of the state a comparison of utilities which involved as well the preservation of the natural resources of the state, and the equal participation in them by the people of the state;" "the duration of this utility was for the consideration of the state, and we do not think that the state was required by the Constitution of the United States to stand idly by while these resources were disproportionately used or used in such way that tended to their depletion, having no power of interference." The court in the *Walls* case further pointed to the fact that "the State of Wyoming has the same power to prevent the use of natural gas in the production of carbon black, the tendency of which is (it may be the inevitable effect of which is) the exhaustion of the supply of natural gas, and the consequent detriment of other uses."

It is attempted to differentiate the *Walls* case on the ground that it was tried on the presumption that the heat units in the gas used in the manufacture of carbon black were wasted while H. B. 266 permits the use of sweet gas for fuel purposes all of which is actually consumed in the manufacture of carbon black. We answer that the process of manufacturing carbon black considered in the *Walls* case is the same process considered in this case, and that the Wyoming statute there under consideration, permitted the use of gas for fuel purposes. The Midland Carbon Company,

however, was more efficient in recovering carbon black from the gas, its recovery being 1 3/4 pounds to 1000 cubic feet while the recovery of the Combined Carbon Company is only 1.30 pounds per 1000 cubic feet (R. 307).

It is further said that by reason of the Panhandle field being a common pool containing both sweet and sour gas, and there being no basic difference between the gases, that these facts are peculiar to the instant case and find no counterpart in the Walls case. To this we reply that the comparison on this score only accentuates the reasonableness of the classification here under attack. The Wyoming Legislature drew an arbitrary line in a circle of ten miles around an incorporated town or industrial plant. A well one foot within the circle had its production dedicated to domestic and industrial purposes. The production from a well one foot outside of the circle could be utilized for carbon black purposes without even stripping the gas for its gasoline content, or, for aught appearing in the act, could be stripped of its gasolene content and the residue blown, without limit as to quantity, into the air. In the instant case the Texas Legislature classified according to types of gas and prohibited the use of gas adaptable to pipe line purposes for carbon black, but permitted casinghead and sour gas to be so utilized, and drew a line or definition scientifically and physically adapted to the situation, and restricted the production of each type of gas to a reasonable market demand.

It is asserted that at the time of the trial of the Walls case the carbon black industry was in its in-

fancy and possibly the nature of its manufacture and necessity had not been fully developed, and since that time the industry has become essential to the public welfare. If reply is necessary to this argument, we need only refer to the allegations of complainant Henderson Company's bill of complaint as a complete refutation and quote from the pages 11 and 12 of its bill (R. 12-13):

> "The business of manufacturing carbon black from natural gas is no innovation or experiment, but an established industry, which has been conducted in the United States since 1864. *Its origin and growth were coincident with the development of the modern rotary printing press*, requiring a thin, rapidly flowing ink of great covering power Carbon black today is a stable and necessary commodity, and few manufactured products have such a range of utility. Its present uses are in the manufacture of printing ink, automobile tires, rubber footwear and heels, garden hose, phonograph records, golf balls, paints, carbon paper, typewriter ribbons, black and gray paper, book binders, board, crayons, stove polish, shoe polish, tarpaulin, insulating material and colorings for cement, tile and artificial stone. Every newspaper of the United States is dependent upon the product of carbon black, and every rubber manufacturing company is dependent upon such product in order to furnish to the world the tires on the millions of automobiles that traverse the highways." (Italics ours)

Certainly this was no infant industry in 1920 when the *Walls* case was decided and certainly automobiles ran, newspapers and books were printed then as they are now. Indeed, the opinion in the *Walls* case states:

"The uses of carbon black are enumerated, and it is alleged that no form of it possessing the same properties and the wide variety of uses can be commercially manufactured from any material or substance other than natural gas." (254 U. S. 310).

A careful examination of the opinion reveals that the same arguments that are here adduced in behalf of the industry were urged in the *Walls* case.

It is also asserted that the rule of property in Wyoming being different from the rule in Texas, the Court in determining the *Walls* case applied the principle set out in the *Ohio Oil Company* case, while the Texas rule of ownership-in-place prevents the application of the rule set out in the *Ohio Oil Company* case. We again refer to the decision of the Supreme Court of Texas in *Brown v. Humble Oil & Refining Company*, 83 S. W. (2d) 935, in which the principles laid down in the *Ohio Oil Company* case are held to be equally applicable to Texas, although the rule of non-ownership prevails in Indiana while the rule of ownership-in-place prevails in Texas.

We have gone into some detail in our discussion of the argument of appellant as to the *Walls* case because such differences as exist between that case and the instant case only make the Walls decision more conclusive and the reasonableness of the Texas statute more apparent. It is inconceivable to us how a classification founded wholly upon an imaginary line drawn at an arbitrary distance from incorporated towns or industrial plants, the effect of which would be to allow a producer just outside the circle to use

for carbon black and other inferior purposes the very same character of gas which, if produced inside the ten mile limit, must be used for domestic and industrial purposes, could be held reasonable, and the classification here in question stricken down.

In *Nebbia v. New York*, 291 U. S. 502, 78 L. Ed. 940, 54 S. Ct. 505, the appellant, defendant in a criminal action in the court below, urged that the order of the Milk Control Board created under the Milk Price statute denied him the equal protection of the law, in that the order required him, if he purchased his supply from a dealer to pay eight cents per quart and five cents per pint, and to resell at not less than nine and six, whereas, the same dealer may buy his supply from a farmer at lower prices and deliver milk to consumers at ten cents the quart and six cents the pint. The court held that there were obvious distinctions between the two sorts of merchants which may well justify a difference of treatment, and upheld the classification.

That the Legislature exercises a wide discretion not only in classifying and applying different regulations and burdens on different persons and subjects, but in applying such regulations and burdens in accordance with its conception of proper public policy is clearly demonstrated in the case of *American Sugar Refining Company v. Louisiana*, 179 U. S. 89, 45 L. Ed. 102, 21 S. Ct. 43. There the legislation upheld imposed a license tax upon manufacturers engaged in the business of refining sugar, and exempted from the burden imposed those who manufactured for themselves, though by the express terms of the act the

exemption also applied to planters who granulated syrup for other planters during the rolling season.

In *German Alliance Insurance Company v. Lewis*, 233 U.S. 389, 58 L. Ed. 1011, 34 S. Ct. 612, the court said:

> "A citation of cases is not necessary, nor for the general principle that a discrimination is valid if not arbitrary, and arbitrary in the legislative sense, that is, outside of that wide discretion which a legislature may exercise. A legislative classification may rest on *narrow distinctions*. Legislation is addressed to evils as they may appear, and even degrees of evil may determine its exercise." (Italics ours)

The opinion in *Corporation Commission v. Lowe*, 281 U. S. 431, 74 L. Ed. 949, 50 S. Ct. 397, includes this statement:

> "It was incumbent upon the appellee in invoking the protection of the 14th Amendment to show with convincing clarity that the law of the state created against him the discrimination of which he complained. An infraction of the constitutional provisions is not to be assumed. On the contrary it is to be presumed that the state in enforcing its local policies will conform its requirements to the Federal guaranties. Doubts on this point are to be resolved in favor of, and not against, the state."

The court in *Booth v. State of Indiana*, 237 U. S. 391, 59 L. Ed. 1011, 35 S. Ct. 617, had for review a judgment of conviction for the violation of an Indiana statute imposing the duty on the owners of coal mines to erect and maintain wash houses for their

employes whenever as many as 20 such employes petitioned in writing for such facilities, and in disposing of the contention that the statute denied the equal protection of the laws, the court says:

> "It is, however, further objected that the law discriminates because it may be applied to one mine, and not to another, all other conditions being the same but the desire of the miners—indeed, discriminates upon a distinction more arbitrary than that, upon the desire of twenty in one mine as against a lesser number, nineteen, it may be, in another. The objection is a familiar one and has an instance and answer in McLean v. Arkansas, supra. It is the usual ground of attack upon a distinction *based on degree*, and seems to have a special force when the distinction depends upon a *difference in numbers*. * * * The choice of manner was, under the circumstances, for the legislature, and its choice was legal if it had the power to enact the law at all." (Italics ours).

In *Otis & Gasman v. Parker*, 187 U. S. 606, 47 L. Ed. 327, 23 S. Ct. 168, the court said:

> "While the courts must exercise a judgment of their own, it by no means is true that every law is void which may seem to the judges who pass upon it excessive, unsuited to its ostensible end, or based upon conception of morality with which they disagree. *Considerable latitude must be allowed for difference of views, as well as for possible peculiar conditions which this court can know but imperfectly, if at all.* Otherwise, a constitution instead of embodying only relative fundamental rules of right, as generally understood by all English-speaking communities, would become the partisan of a particular set of ethical or economic

opinions, which by no means are held *semper ubique et ab omnibus.*" (Italics ours).

The case of *Dominion Hotel, Inc., v. State of Arizona*, 249 U. S. 265, 63 L. Ed. 597, 39 S. Ct. 273, involved a law regulating the hours of female employes in hotels and restaurants, but making a variation in the case of railroad restaurants or eating houses, and in rejecting the claim that the statute violated the 14th Amendment, the Court said:

> "The 14th Amendment is not a *pedagogical requirement of the impracticable.* * * * The only question is whether we can say on our judicial knowledge that the Legislature of Arizona could not have had any reasonable ground for believing that there were such public considerations for the distinction made by the present law. The deference due to the judgment of the Legislature on the matter has been emphasized again and again." (Italics ours).

The State of Kansas enacted a law authorizing a city by ordinance to annex contiguous territory, excepting, however, any land used for agricultural purposes, and not owned by a corporation, and that law was under discussion in the following quotation from *Clark et al v. City of Kansas City*, 176 U. S. 114, 44 L. Ed. 392, 20 S. Ct. 284:

> "The statute excepts from its operation lands used for agricultural purposes if owned by individuals. It includes such lands if owned by corporations. It is hence contended by plaintiffs in error that the statute discriminates between the owners of agricultural lands, and between them again and the owners of all other lands and infringes thereby the provisions of the constitution

of the United States which guarantees to all persons the equal protection of the laws. * * *

"The answer to that charge depends upon the power of the state to classify objects of legislation; necessarily a broad power, and one which this court has so many times decided exists, and so many times has defined and illustrated the limitation upon it of the provision of the constitution of the United States invoked by plaintiff in error, that further definition would seem impossible, and any new instance of its application not without exact or analogous example in some decided case.

"The reasoning of the case we need not repeat. *It is enough to say that the rule of the constitution leaves to the discretion and wisdom of the State a wide latitude as far as interference by this court is concerned.*" (Italics ours.)

The Court in *Stebbins v. Riley*, 268 U. S. 137, 69 L. ed. 884, 45 S. Ct. 424, said:

"It is not open to objection unless it *precludes* the assumption that the classification was made in the exercise of legislative judgmnt and discretion."

The case of *M. K. & T. Ry. Co. v. May*, 194 U. S. 267, 48 L. ed. 971, 24 S. Ct. 638, had its origin in the Texas statute requiring railroads to keep their rights of way cleared of Johnson grass, which was attacked on the ground that it discriminated against railroads as compared with all other owners of property, and in denying the contention the Court said:

"It would have been more obviously fair to extend the regulation at least to highways. But it may have been found for all that we know that

the seed of Johnson grass dropped from the cars in such quantities as to cause special trouble. It may be that the neglected strips occupied by railroads afford a ground where noxious weeds especially flourish, and that whereas self-interest leads the owners of the farms to keep down pests, the railroad companies have done nothing in a matter which concerns their neighbors only. Other reasons may be imagined. Great constitutional provisions must be administered with caution. Some play must be allowed for the joints of the machine, and it *must be remembered that legislatures are ultimate guardians of the liberties and welfare of the people in quite as great a degree as the courts.*" (Italics ours.)

In *Heath & Milligan Mfg. Co. v. Worst*, 207 U.S. 338, 52 L. ed. 243, 28 S. Ct. 114, the Court said:

"A classification may not be merely arbitrary, but necessarily there must be great freedom of discretion, even though it result in 'ill-advised, unequal and oppressive legislation.' Mobile County v. Kimball, 102 U. S. 691, 26 L. ed. 238. And this necessarily on account of the complex problems which are presented to the government. Evils must be met as they arise and according to the manner in which they arise. The right remedy may not be always apparent. Any interference indeed, may be asserted to be evil, may result in evil. *At any rate, exact wisdom and nice adaptation of remedies are not required by the 14th Amendment, nor the crudeness nor the impolicy, nor even the injustice of state laws redressed by it.*" (Italics ours.)

Lastly, in this connection, we refer to the case of *Metropolis Theatre Company v. Chicago*, 228 U. S. 68, 57 L. ed. 730, 33 S. Ct. 441, in which a revenue

law imposing a tax upon theatres graduated according to the admission charge, independently of the gross receipts, was resisted on the ground that same denied the equal protection of the law, and the Court says:

> It is enough to say that we have tried, so far as the amendment is concerned, to declare in words, and the case illustrated by examples, *the wide range which legislation has in classifying its objects*. To be able to find fault with a law is not to demonstrate its invalidity. It may seem unjust and oppressive, yet be free from judicial interference. The problems of government are *practical ones* and may justify, if they do not require, rough accommodations—illogical it may be, and unscientific. But even such criticism should not be hastily expressed. What is best is not always discernible, the wisdom of any choice may be disputed or condemned. Mere errors are not subject to our judicial rebuke. *It is only its palpably arbitrary exercises which can be declared void under the 14th amendment*; and such judgment cannot be pronounced of the ordinance in controversy." (Italics ours.)

In the light of these authorities how fares the classification between the uses to which sweet and sour gas may be put contained in House Bill No. 266? That the subject matter and object of the legislation are subject to the police power seems well established. The Legislature is simply dealing with regulations governing the production and use of gas, and the power to regulate such business is within the legislative province. *Henderson Inc. v. Railroad Commission*, 56 Fed. (2d) 218; *Bandini Petroleum Co. v. Superior Court*, 284 U. S. 8, 76 L. ed. 136, 52 S. Ct. 103; *Ohio Oil Company v. Indiana*, 177 U. S. 190, 44 L. ed. 729, 20

S. Ct. 576; Lindsley v. Natural Carbonic Company, 220 U. S. 551, ed. 369, 31 S. Ct. 337; Walls v. Midland Carbon Company, 254 U. S. 300, 65 L. ed. 276, 41 S. Ct. 118; Brown v. Humble Oil & Refining Company, 83 S. W. (2d) 935, opinion on rehearing, 87 S. W. (2d) 1069, Danciger Oil & Refining Company v. Railroad Commission, 49 S. W. (2d) 837. The power of the State to regulate and restrict the production of oil and gas in order to adjust and protect the correlative rights of the separate owners to produce the oil and gas underlying their respective lands and to prevent waste must be conceded, and no constitutional rights, State or Federal, are invaded by such a regulation if it be reasonable and apply alike to all land proprietors within the common source of supply.

3. The difference in pressures between portions of the sweet and sour gas areas does not invalidate the regulation.

The contention made by the appellant to the effect that the operations of the act will result in a discrimination as against it by permitting its neighbors to product sour gas for carbon black purposes, and by denying an outlet to the production from its sweet gas wells bring about confiscation of its property, is not, in our opinion, sustained by the evidence. Its contention in this respect is that generally there are lower pressure areas in the sour gas field than in the sweet gas field and that, generally speaking, drainage would take place from the sweet to the sour gas areas resulting in the eventual disappearance of the sour gas area. None of the experts testifying for the appellant are in any way definite as to just when all this will be brought about, that is, whether the eventual extinguishment of the

sour gas area will occur within human, geological, or astronomical time, and whether it could possibly occur before the entire field would have been exhausted. Appellant points to the fact that the sour sweet gas line has moved northward into the sour gas area. Its witness Hughes, however, admitted that this conclusion is based on less accurate tests than those at present employed (R. 144). There would, of course, be no occasion to establish a sour-sweet gas line based on a classification of 1½ grains prior to the passage of House Bill No. 266 since sweet and sour gas were alike under the law usable for carbon black purposes, nor would there be any occasion for a scientific establishment of such line prior to the effective date of the sour gas law, August 12, 1933, since prior to that date carbon black could only be manufactured from casinghead gas.

Appellant's witness Thompson testified with respect to the accuracy of the tests made for hydrogen-sulphide prior to the passage of House Bill No. 266:

> "There is no early data available on the hydrogen sulphide content of the gas produced from the wells in the field. The exact location during the history of the field of the sweet-sour gas line cannot be determined because of the absence of such early data. We do know the location of the sweet-sour gas line as of July, 1935, from data and information obtained at and immediately prior to that time by the Railroad Commission."

Based on a comparison between estimates of the amount of sour gas present in the sour gas area on different dates, appellant's witness draws the conclusion that there has been migration to the sour gas area from the sweet gas area in excess of one trillion

cubic feet of sweet gas. (R. 143). Appellant makes the contention that as between the sweet and sour gas zones there will occur disproportionate withdrawals, since under the operation of the statutes the market demand for each type of gas is allocated to each zone, and by reason of the smaller area of the sour gas zone in comparison with the sweet gas zone, and the disproportion in potentials of such zones, the withdrawals as between such areas will be disproportionate under the order of the Commission prorating the field, which will cause drainage from the sweet to the sour gas zone, dilution of the sour gas with sweet gas, resulting in making the sour gas wells sweet, and the production of sweet gas through gas wells formerly producing sour gas. In this respect it is clear that the real complaint appellant is urging is not as to the classification as between sour and sweet gas and as to their respective uses provided by House Bill No. 266, but is really directed against the provisions of House Bill No. 266 directing the Railroad Commission to allocate to each zone, sweet and sour, the amount of market demand for the type of gas produced from each zone.

Section 14 of House Bill No. 266 makes it the duty of the Commission to ascertain and determine the reasonable market demand for gas from gas wells to be used for the lawful purposes to which sweet gas may be put under the Act, and to restrict the production of gas from all gas wells in the field producing such gas to an amount equal to market demand or to an amount which may be produced without waste, and to allocate such allowable production among the various gas

wells affected on a reasonable basis and as provided in the Act. It likewise makes it the duty of the Commission to prorate the daily gas well production of sour gas in the same manner.

Section 19 of House Bill No. 266 authorizes the Commission to zone a common reservoir to adequately accomplish the purposes of the Act and to make orders appropriate to each zone. The Commission is further authorized to segregate a sour gas area from a sweet gas area and shall not be required to restrict the allowable production of the sour gas zone to the same percentages that may be produced from the sweet gas zone.

Section 15 of House Bill No. 266 provides that where the allowable production allocated to any well is more than 15% of its potential and the Commission finds that such production of allowable will cause waste due to intermingling of sweet and sour gas it may restrict the production from such well to 15% of its potential, without, however, restricting the right of the Commission to restrict below 15% of such potential in carrying out the requirements of Sections 13 and 14 of the Act (requiring restriction to an amount that can be produced without waste, and in all events to market demand).

While the Appellant in its original bill of complaint (R. 22-24) and in its amended bill of complaint (R. 54-55) and in its second amendment to the bill of complaint (R. 56-68) complains of Sections 10 and 11 of the Act, the sections providing for proration of production and the distribution of market demand among all producers in the field, the allowables promulgated pursuant thereto, and the orders of the Rail-

road Commission issued which create the sweet and sour gas zones and allocate allowables to each zone in accordance with market demand, its attack in all these respects was abandoned on the trial of the case. Consequently it is difficult to see wherein appellant can now complain of these purported results asserted to be brought about by the operation of these provisions of the statute.

It is clear that until the Act has actually operated any conclusions with reference to the results brought about through its operation will be based wholly upon speculation. The operation and effect of the act in preventing the production of approximately one billion cubic feet of sweet and sour gas for the processing of its gasoline content and the blowing of the residue into the air is wholly ignored by the Appellant when it asserts that the operation of the Act will aggravate any supposed drainage condition between the sweet and sour gas areas.

It is submitted that the purported drainage to the sour gas area from the sweet gas area remains yet to be established by facts actually adduced, and deductions to that effect rest upon mere conclusions or the result of a comparison of estimates of the amount of recoverable gas in the sour gas zone. An examination of the pressure map of the Panhandle field reveals that tremendous areas in both the sweet and sour gas zones retain practically virgin pressure, that is, pressure in excess of 400 pounds (virgin pressure in the field being 430 pounds). While all concede that the reservoir is interconnected, it is evident that conditions of porosity and permeability vary to such an extent

that the operations in the oil area and sour gas zone which have continued for a period of approximately 10 years have not materially affected these large areas of free gas producing territory which have retained practically virgin pressure existing since the discovery of the field in 1918.

Whether there will be a drainage condition as between the sweet gas area and the sour gas area or between the sour gas area and sweet gas area depends wholly upon local conditions existing along the line of demarcation between the two zones, since the influence of one well can carry little force beyond the influence of its neighbor. Certainly in this respect the Appellant has not been able to give concrete form to its contention that material drainage exists from the sweet gas area to the sour gas zone. In the one and only instance cited by its witness Thompson, it was shown that drainage, if any, has actually occurred from the sour gas zone to the sweet gas zone,[1] contrary to the deductions and conclusions of Appellant's witness.

By its order of February, 1936, and the apportionment of allowables thereunder by the Commission, the ratio between sour gas production and total demands is very nearly the same proportion as the ratio between the amount of recoverable sour gas and total reserve

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[1] "The well known and referred to as the Vaniman #2, located in the Northeast quarter in Section 175, of Block 3, I. & G. N. Survey is situated south of the sweet-sour gas line as located by the Railroad Commission, and when tested on open flow at capacity was found to contain more than 1½ grains of hydrogen sulphide per 100 cubic feet, and reclassified by the Railroad Commission as sour." (R. 154).

in the field. The sour gas production as fixed by that order is 30.9% of the total amount of natural gas in the field. According to the estimate of the witness Craig, the proportion of recoverable sour gas is 28.1% of the total recoverable gas in the field (R. 294).

Therefore, under the policy adopted by the Commission of requiring available casinghead gas to be used for carbon black manufacture, which could otherwise be blown into the air and wasted, the proportion of sour gas production is in favorable proportion to sour gas acreage and sour gas potentials.

It is further obvious that the application of the ratable production provisions of the statute and the allocations to its sweet gas wells of allowables of production will prevent undue drainage from Appellant's sweet gas wells.

Undoubtedly the Legislature had the right to take the situation as it existed. As revealed by the testimony in this case the initial development in the Panhandle was in search of oil and little or no value was attached to the gas produced, and unquestionably a tremendous amount of gas was wasted in the process of recovering oil. As testified by appellant's witness Hughes:

> " * * * * the principal factors contributing to those lowest pressure areas were the great withdrawals of gas by hundreds of oil tests drilled in the gas bearing portion of said reservoir, when there was no known method of preventing the escape of such gas into the air as such tests for oil were drilled through the gas bearing formation, and the subsequent withdrawals by many of the

same wells in their production of casinghead gasoline, both of which activities obtained their greatest magnitude in 1926, and although in recent years methods and devices are used to prevent the escape of gas from wells drilling through the gas bearing formation, the production of casinghead with the production of oil has continued since oil was first discovered in the Panhandle Field." (R. 137).

It must also be remembered in this connection that with the production of this gas there was also produced many million barrels of oil, and while in a physical sense much of the gas produced in oil field operations was wasted, from an economic standpoint the gas so used in connection with the production of oil was in many cases providently produced.

a. Appellant is not in a position to complain of conditions to which it has contributed.

It is clear from the record that the operation of appellant's gasoline plant at Sanford, Texas, has been a large contributing factor to the lowering of the pressures in certain areas the sour gas area and any differentials in pressure existing between the sour gas and sweet gas zones. It is also clear from the record that the appellant has not sustained its complaint that its neighbors may drain gas from the 21 wells connected to its plant. The pressures existing in the vicinity of Sanford, Texas, where the appellant's gasoline plant is located, are lower than the pressures in all directions away from this region. 17 of the 21 wells connected to the Henderson plant are located within the 190 pound per square inch contour which is a closed contour line and the pressures in all directions around it

are higher than the pressure within this contour. It is therefore apparent that these 17 wells are now draining both sweet and sour gas from the area around them and will continue to do so for many years, and that these wells cannot lose gas by any schedule which gives a somewhat larger allowable to either the sweet or sour gas area (R. 315).

Table No. 1, styled "Cumulative withdrawals from the wells connected to the Henderson Company's Sanford plant," attached to the affidavit of the witness Patten, shows that appellant has withdrawn a total of 94,688,714 cubic feet of gas from 21 wells located on 1,201 acres, which is an average production of 78,824,000 cubic feet per acre. (R:314-315). *This is a greater average per acre withdrawal than any other gasoline plant or any pipe line operating in the Panhandle gas field*, and is much greater than the average for the field. The average per acre production to July 1, 1935, for all the operators in the Panhandle gas field was approximately 3,200,000 cubic feet. *Hence, the Henderson Company has withdrawn more than 24 times as much gas per acre as the average for the field.*

Otherwise stated, estimates of reserves of the Panhandle gas field by various engineers and geologists show that there was originally an average of between 16,000 and 25,000 M.C.F. per acre in this field. The Henderson Company has therefore withdrawn between three and four times its estimated original reserve (R. 314). The cumulative withdrawals of wells around the Sanford area not connected to the Henderson plant are shown in Table 2 (R. 316). The per acre with-

drawals of these wells average only one fifth of the per acre withdrawals of appellant; and yet they are approximately five times as great as the average per acre withdrawals for the entire field. The result of the operations of appellant's plant and the other operators in this vicinity have been to create a lower pressure area in the vicinity of Sanford (R. 314).

Appellant attempts to counteract this testimony by the affidavit of its witness Hughes (R. 356), who selects 14 wells of the Phillips Petroleum Company, located on 740 acres. No attempt is made to show that these particular wells are typical or representative of the Phillips holdings, or of the over all picture of the Phillips properties, but they are selected because they show the greatest percentage of recovery.

Appellant also asserts through the same witness (R. 357) that the sweet gas wells of the appellant are southwest of those enclosures, and that actual drainage is occurring from them to the low area. If the witness be correct in this conclusion, then the drainage of these sweet gas wells is to a low area produced and caused in large part by reason of the operations of the appellant itself. The appellant began operation of its plant in August, 1929, and operated on dry gas as a stripping plant until closed by Federal Court order in 1932 (*E. C. Henderson Company, Inc. v. Railroad Commission of Texas*, 56 Fed. (2d) 218). The operation of the plant was resumed under a permit from the Railroad Commission in 1933; and from that date until November, 1935, it was operated as a stripping plant, though beginning in May, 1935, some residue gas was sold to carbon black plants. During

the period from February, 1933, to November, 1935, a total of more than eighty three million cubic feet of residue gas was blown into the air by this plant. Since November, 1935, appellant's plant has operated under a federal court injunction permitting it to take quantities of dry natural gas sufficient to satisfy its demand for residue gas to be sold to carbon black plants. During this period of time, however, varying quantities of residue gas from this plant have been blown into the air (R. 313 314)

It is submitted in view of these facts that Appellant is not now in a position to complain of any alleged drainage occuring between the sweet and sour gas zones by reason of differential of pressures existing, and to which it made a major contribution or of any purported drainage from its sweet gas wells to the sour gas area.

b. Any burdens imposed by the statute and classifications therein flow necessarily from the proper exercise of the police power.

If the classifications and definitions of sweet and sour gas and the uses prescribed for each type of gas are reasonable and constitute proper exercise of the police power it follows that such incidental burdens or hardships, if any, imposed thereby are beyond redress upon the part of the Appellant. As was said by this court in the case of *Hadacheck v. Sebastian*, 239 U. S. 394, 60 L. Ed. 348, 36 S. Ct. 143:

"It may indeed seem harsh in its exercise usually is on some individuals, but the imperative necessity for its existence precludes any limitations upon it when not exerted arbitrarily . . 239 U. S.

It is certainly a fair deduction from the evidence that the relatively small amount of gas which could be drained from the sweet gas zone to the sour gas zone could add but an insignificant addition to the intolerable differentials now existing in the vicinity of the Appellant's plant and brought about by its own operations. There can be no doubt that the such differentials would in great part be minimumized by the application of the ratable production features of House Bill No. 266 to these areas, which will prevent the occurrence in the future of disproportionate withdrawals which have occurred in the past. The adjustment of the rights of correlative owners is not required to an absolutely precise degree or upon any nice mathematical accuracy, since there may exist small inequalities even under the most perfect administration. The effect of the operation of the ratable production features of House Bill No. 266 and the orders issued pursuant thereto will be to give substantial justice to each producer in the field by allocating to him an allowable of production based 50% upon the potentials of his wells and 50% upon acreage held by the well, not to exceed a reasonable drainage area (R. 294). The statute and orders treat all of the same class alike. Each are subjected to the same hardships, burdens and advantages.

The regulation being within the proper sphere of legislative action, and bearing a reasonable relation to the objects sought to be accomplished, the question of taking of Appellant's property or any burden cast upon it become wholly immaterial. In these respects Appellant's rights and property are even less affected

than were the rights and property of the Ohio Oil Company in *Ohio Oil Company v. Indiana*, 177 U.S. 190, 44 L. Ed. 729, 20 S. Ct. 576, of the Champlin Refining Company in *Champlin Refining Company v. Corporation Commission*, 286 U. S. 210, 76 L. Ed. 1062, 52 S. Ct. 559, or of the Danciger Oil & Refining Company in its two cases, *Danciger Oil & Refining Company v. Railroad Commission*, 49 S. W. (2d) 837, *Danciger v. Smith*, 4 Fed. Supp. 236.

Appellant's gasoline plant was erected and its investments were made at a time when the use of any kind of gas well gas for carbon black was prohibited Its contract with the Combined Carbon Company was entered into in October, 1934, and operations under the contract did not begin until after the enactment of House Bill No. 266. It was definitely certain that the problem of the Panhandle field would confront the 44th Legislature when it assembled in January, 1935, and that comprehensive regulatory enactments would result. The Preliminary Report of the Senate Investigating Committee was made on September 9, 1934 (R. 339). Counsel for Appellant and the Combined Carbon Company was present and participated in the hearing conducted by the Committee. Carbon black permits issued by the Commission were restricted to the burning of residue casinghead gas (R. 345-352).

4. Appellant's showing is insufficient to establish irreparable injury to it arising from an insufficient supply of sour gas to fulfill its needs under the contract with the Combined Carbon Company, and to supply its sweet gas requirements for light and fuel in its plant.

In the opinion of the trial court upon Appellant's

application for interlocutory injunction it was found that Appellant had made no showing of irreparable injury entitling it to stay the operation of the statute in view of the fact that upon the showing made Appellant had more than enough gas to protect the situation with respect to its contract calling for the delivery of residue sour gas with probably a surplus of several million cubic feet a day. In its application for temporary injunction Appellant made complaint not only of the classifications between sweet and sour gas but also against the proration features of the act and the allowables made to it thereunder. After the refusal of the interlocutory injunction Appellant procured an injunction in November, 1935, from a federal court permitting it to take quantities of dry natural gas sufficient to satisfy its demand for residue gas to be sold to carbon black plants not to exceed 25% of the potentials of its wells (R. 314). Upon the trial of the instant case in February, 1936, Appellant therefore abandoned its attack upon the proration features of the statute. According to the general manager and secretary of the Appellant, Mr. F. C. Hall, the total potential capacity of the twenty-one wells connected to Appellant's plant is 362,747,000, of which the open-flow capacity of the fourteen wells classified as sweet gas wells by the Commission is 231,042,000, leaving an open flow capacity for the seven sour gas wells connected to Appellant's plant of 131,705,000 cubic feet daily (R. 127). Producing at 25% of their open flow capacity these wells classified as sour wells will produce 32,926,000 cubic feet of gas daily, or 2,926,000 cubic feet in excess of the maximum requirements under its contract with the Combined Carbon

Company (R. 127). The requirements of the Appellant's plant for light and fuel purposes are estimated by appellant at 8,000,000 cubic feet daily (R. 128).

There is in fact nothing in the casinghead gas contracts made by the Appellant with other operators that would prevent the Appellant from using gas to be obtained from its sweet gas wells for the fuel requirements of its plant (For a casinghead gas contract agreed to be typical see R. 219 228). But if such contracts do impose a restriction upon the use of such residue gas to be obtained under such contracts whereby the use of such gas is restricted to the extraction of the gasoline content, *then it is doubtful whether Appellant is in a position to complain that the prohibition of the use of such residue sweet gas for the manufacture of carbon black in fact impairs or effects its casinghead gas contracts.*

By its own reports to the Railroad Commission of Texas Appellant showed that it had in fact withdrawn in excess of 25% of the potential of 5 of its wells in October, November and December, 1935, and January, 1936 (R. 330). This it accomplished by carrying potentials of its own rather than the potentials of its wells established by the tests of the Railroad Commission and witnessed by its own employees (R. 329). Even under the schedules published pursuant to the proration orders of the Railroad Commission the allowable of sweet gas to the wells connected to the Appellant is 7,507,000, and the allowable of sour gas is 30,835,000 cubic feet of gas daily (R. 323). As shown by the three tables appearing on pages 312-313 of the Record Appellant showed an intake of gas

into its plant for the month of August, 1935, in a total of 39,129,000 cubic feet of gas daily, of which 32,157,000 was sour gas and 6,972,000 was sweet gas, while during the same month it blew into the air 6,679,000 cubic feet of gas. Like conditions for the next five months preceding the trial of this case existed with reference to its operations. In fact, during the month of October, 1935, Appellant actually blew into the air from its plant 28,275,000 cubic feet of gas daily. We respectfully submit that the Record amply establishes the conclusion of the witness Patten to the effect that "the excess sweet gas consumed by this plant was not needed to supply the carbon black demand; but was blown into the air" (R. 312). If the true gasoline extraction loss be considered instead of the excessive extraction loss shown by Appellant on its gasoline plant reports the amount actually vented to the air by Appellant is increased accordingly (R. 312).

Since Appellant in another suit has an injunction enabling it to produce its sour gas wells in amounts sufficient to fulfill its carbon black requirements, if the injunction it seeks in this suit were refused its position to operate to fulfill its carbon black contract with the Combined Carbon Company is in no manner affected.

5. The Definitions of sweet and sour gas, and the prohibition against the use of sweet gas for carbon black manufacture operate to prevent waste.

The position of the Appellant is exactly the position occupied by the Midland Carbon Company in the *Walls* case, in that Appellant points to the fact, as did the Midland Carbon Company, that the equipment and appliances of the Combined Carbon Company are

modern, and that by the operation of such equipment there is being obtained the greatest recovery of carbon black possible from the least amount of gas; and that the variety of uses to which carbon black may be put, and the necessity existing for such product, constitute the industry useful and indispensable.

Doubtless the Combined Carbon Company is doing as well as it can in recovering carbon black by the channel process. However, as a matter of fact, the Midland Carbon Company was recovering more carbon black per thousand feet of gas than is the Combined Carbon Company. The varying percentages of recovery of carbon black of the various carbon black plants throughout the Panhandle field is shown in Table I. styled Summary of the Operations of Carbon Black Plants in the Panhandle Field, attached to affidavit of the witness Patten (R. 307). The recoveries obtained range from .17 to 1.95 of carbon black per 1000 cubic feet of gas. In the *Walls* case there was "obtained from each one thousand cubic feet of natural gas consumed 1¾ pounds of carbon black and 2/10 of a gallon of high-gravity gasolene." (254 U. S. 319).

In the instant case Appellees submit that an even stronger case supports the legislative declaration that a wasteful utilization of sweet gas occurs when utilized for carbon black. In the *Walls* case there was only one class of gas to which the producer for domestic and industrial purposes and the producer for carbon black purposes could resort. In other words to refuse the carbon black producer the right to utilize the gas in the *Walls* case meant that the use of any kind of

gas was forever denied him unless he were forunate enough to be situated outside of the ten mile limit fixed by the Wyoming Legislature. In the instant case there are in fact two kinds of gas dedicated to the uses and purpose of the carbon black manufacturer—sour gas and casinghead gas, both of which are not lacking in reserve supply or general availability. In effect the evidence adduced by the Appellees shows that the amount of sour and casinghead gas available for carbon black purposes exceed the requirements of such manufacturers in excess of one hundred million cubic feet daily (R. 317).

We direct the attention of the court to another case directly pertinent to the issue of waste: *Quinton Relief Oil & Gas Co. v. Corporation Commission,* 224 Pac. 156. The decision of the Oklahoma Supreme Court was written by Judge Kennamer. The provisions of the Oklahoma statute provided:

> "The term waste, as used herein, in addition to its ordinary meaning, shall include escape of natural gas in commercial quantities into the open air, the intentional drowning with water of a gas stratum capable of producing gas in commercial quantities, underground waste, the permitting of any natural gas well to wastefully burn and the wasteful utilization of such gas."

Acting under the authorization of this statute the Corporation Commission revoked a permit to the Western Carbon Company to utilize natural gas for carbon black. This statute is strikingly similar to the waste provisions of H. B. 266. The other statute considered by the court was in almost the same language of Article 6008 prior to its amendment in 1931, it pro-

viding that immediately after penetrating the gas-bearing rock, the owner or lessee shall shut in and confine the gas in said well until and during such time as the gas therein shall be utilized for light, fuel or power purposes.

After holding that the power vested in the Commission to define "wasteful utilization of gas" was not an unconstitutional delegation of power, the Court cited the Walls case as controlling and said:

> "A careful examination of the authorities shows that there is almost unanimity in holding that the burning of natural gas for carbon purposes in high pressure fields having sufficient rock pressure to force gas through a pipe line to domestic consumers and where the same may be used for such purpose, constitutes a wasteful utilization thereof. Natural gas has twice the heating units as artificial gas, and, taking into consideration the convenience of natural gas, it is intrinsically worth more than artificial gas; its market value being from $2 to $3 per thousand cubic feet. The amount of carbon black produced from 1,000 cubic feet of natural gas has a market value of about 10 cents. It therefore is obvious that the state, in the proper exercise of its police power and in conservation of so valuable a natural resource as natural gas, may prohibit the wasteful utilization of the same in the interest of the public welfare."

As illustrative of the police control exercised over the carbon black industry, see *State v. Carson Carbon Company*, 111 Southern 162, 162 La. 781, and *Herkness v. Irion*, 11 Fed. (2d) 386.

To lay down the major premises that the carbon

black industry is a useful industry and that its product is essential to the manufacture of numerous articles used in daily life, and to draw therefrom the conclusion that the disproportionate amount of gas used in such manufacture would not constitute a disproportionate taking which the Legislature could take into consideration in making its classifications, clearly result in a non sequitur. But aside from such disproportionate use which must be condemned as actual physical waste, it is submitted that the physical conditions existing in the Panhandle field compel the conclusion that to permit the consumption of sweet gas for such inferior utilization in the presence of the tremendous supply of sour and casinghead gas would constitute waste of the most flagrant character. To enumerate some of the reasons supporting this statement we direct attention of the court to what we have already said with reference to the abundant supply of the sour and casinghead gas to the manufacturer in the Panhandle field, and the just, if not generous, allocation made by the commission of both types of gas to supply the carbon black requirements. Second, to the fact that both gases have practically the same B.T.U. content and carbon black productivity, and are equally fit for carbon black consumption, with exception of the corrosive influence of sour gas, which influence, of course, renders it even more unfit for pipe line purposes. Third, to the relative value of said gas as produced and sold in the field in their natural state. Fourth, to the physical situation and conditions existing as to gasoline plants, carbon black factories and the investments of these interests and of the pipe line companies. These considerations, in addition to the

considerations considered by the court in the *Walls* case, and which were also established by the appellant in this case, in our opinion, force the conclusion that to permit the use of sweet gas in the Panhandle field for carbon black purposes in the presence of such tremendous supplies of sour gas and an abundant supply of casinghead gas, which if not used for carbon black requirements would otherwise be blown into the air or allowed to remain in the reservoir unrecoverable, would result in physical waste of gas, underground and surface, of the most flagrant character. Viewed therefore, solely from the public interest in the conservation of natural resources the answer given by the Texas Legislature to the problem presented by the Panhandle field, looking to a utilization of all gases within a proper category, is the correct and logical answer, and the result obtained is one supported and bolstered by reason, and brings about a regulated production and uniform and orderly development throughout the field. Appellant cannot complain that the Texas Legislature did not exert its full police power and forbid entirely the use of natural dry gas in the manufacture of carbon black; and, unlike the Wyoming Legislature and the Oklahoma Corporation Commission, who, viewing the disproportionate use to which natural gas was subjected in the manufacture of carbon black, and the rapid depletion and exhaustion of natural gas fields following the appearance of this industry, condemned the use of all natural gas for carbon black purposes as a "wasteful utilization," the Texas Legislature has wisely apportioned to the carbon black industry two types of gases existing in abundant reserve and general accessible to it, but denied to it the

use of gas, which, in the Legislative judgment, should be utilized for a superior purpose.

It must be remembered that this Act is a manifestation of the police power to protect every private interest in the field and at the same time conserve natural resources. To use sweet dry gas for carbon black would leave the sour gas area without an outlet and give no incentive for the utilization of casinghead gas from the oil field. In the absence of the regulation complained of, the sweet gas owner would necessarily produce a disproportionate part of the gas, and the oil producer would be compelled to waste casinghead gas. When applied to the carbon black industry, the oil field, and the fuel pipe lines, the Act will bring about a proportional acquisition of gas and settle the inevitable conflict and turmoil incident to an indiscriminate appropriation which has been in vogue since the field was discovered.

The restrictions as to the use of gas will give each end of this field uniform withdrawals, and the enforcement of ratable taking over the whole field will enable each common owner to produce "a quantity of gas substantially equivalent in amount to the recoverable gas under his land." When this is done, the State of Texas will have discharged its duty to protect private property and at the same time serve the public interest.

Therefore, these restrictions as to the utilization of sweet gas, coupled with the orders of the Commission requiring ratable production throughout the field, will in large part solve the two major problems of the Panhandle gas field: Concentrated and disproportion-

ate withdrawals, and underground and surface waste. The elimination of the one necessarily protects private property rights while the elimination of the other will conserve the public interest.

6. The Statutory definition of sour gas is reasonable perforce the nature of the gas and the actual operating problems in the field.

The Appellees submit that the case for Appellant wholly fails in its attack upon the definition of sour gas contained in House Bill No. 266. Sour gas is defined by the statute as follows:

> "(g) The term 'sour gas' shall mean any natural gas containing more than one and one-half (1½ grains of hydrogen sulphide per one hundred (100) cubic feet or more than thirty (30) grains of total sulphur per one hundred (100) cubic feet, or gas which in its natural state is found by the Commission to be unfit for use in generating light or fuel for domestic purposes."

Appellant's attack is centered upon the contention that gas containing any degree of hydrogen sulphide is not fit to be used for domestic fuel purposes without first having eliminated such sulphur content; and that there is practically no difference in the cost of eliminating a small degree of sulphur or an excessive amount; that there is no basic difference between sweet and sour gas in B.T.U. content or carbon black productivity (R. 18). Taking the testimony of Appellant's witnesses at its best it appears that a substantial difference exists between gas containing less than one and one-half of hydrogen sulphide or thirty grains of sulphur per one hundred cubic feet, and gas containing in excess of such amounts, inasmuch as gas free of such sul-

phur content is usable in its natural state for domestic light and fuel purposes while gas contaminated with such sulphur content is not so usable.

The following facts appearing of Record in this case, in our opinion, conclusively establish that the definition set out in House Bill No. 266 of sour gas is reasonable and is sustained not only by the physical properties of the gas itself but by the existing physical conditions in the Panhandle field:

1. The hydrogen sulphide content of natural gas in the sour zone varies from 1½ to 300 grains. There are very few wells in the sour gas area producing gas having a hydrogen sulphide content of from 1 to 2 grains per hundred cubic feet; most of the wells have a high hydrogen sulphide content (R. 304).

2. The greater portion of gas in the sweet gas area contains such a small hydrogen sulphide content that it cannot be detected by ordinary chemical methods. Some 80 to 90 wells have a hydrogen sulphide content of between the slightest trace and 1½ grains per 100 cubic feet, the average hydrogen sulphide content of these wells being .5 grains per hundred cubic feet. (Table 2 of Exhibit of Witness Patten. R. 308-310).

3. Only 7 or 8 wells produce gas containing between one and two grains of hydrogen sulphide per 100 cubic feet. A great many wells

produce gas having a high hydrogen sulphide content (up to 300 grains per 100 cubic feet) (R. 304).

4. If gas were taken from all wells in the field the resulting gas mixture would have so high a concentration of hydrogen sulphide as to render it unfit for light and fuel purposes (R. 304).

5. If all gas containing the slightest trace or more of hydrogen sulphide were classified as sour gas, a very appreciable volume of gas which could be taken into pipe lines would be classified as sour gas (R. 304).

6. The figure of 1½ grains will increase the reserve of gas restricted to light and fuel purposes without increasing the concentration of hydrogen sulphide in the pipe lines to the point where their life would be shortened by corrosion or where consumers would feel any disagreeable effects (R. 305).

7. The effect of the introduction into the pipe lines of gas from all wells producing gas having a sulphur hydrogen content of from the slightest trace to 1½ grains would be to increase the hydrogen sulphide content of the gas leaving the field in pipe lines to approximately .04 grains per 100 cubic feet (R. 306).

8. A greater portion of the gas from wells pro-

phur content is usable in its natural state for domestic light and fuel purposes while gas contaminated with such sulphur content is not so usable.

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8. A greater portion of the gas from wells pro-

ducing gas containing between a trace and 1½ grains of hydrogen sulphide will be taken by natural gas plants for their light and fuel purposes.

(a) The demand of such plants is 101,125 M.C.F. per day.

(b) These plants are in general connected to gas wells containing between a trace and 1½ grains of hydrogen sulphide per 100 cubic feet (R. 305-306).

9. The hydrogen sulphide content of gas leaving the field in pipe lines for light and fuel purposes will be considerably less than .04 grains per 100 cubic feet. Natural gas can contain at least .1 grain of hydrogen sulphide per 1000 cubic feet without being detrimental to pipe lines (R. 306).

(a) The Texoma Natural Gas Company and Canadian River Gas Company are actually taking from two wells producing gas having a hydrogen sulphide content of between two and three grains.

10. The cost of treatment of sour natural gas to remove its sour gas content varies with the degree of concentration. A greater portion of gas in the sour gas area has a very high hydrogen sulphide content (R. 306).

IV.

The sections and subsections of House Bill No. 266 assailed by Appellant constituting a valid exercise of police power to control the production and use of natural gas, without regard to contractual obligations antecedently established, the obligations of Appellant's contracts are not impaired merely because the enactment, dealing with the same kind of natural resources as the contracts, collaterally results, through its enforcement, in a restraint upon the performance of all parties to the contract.

Appellant alleged and proved the existence of contracts between gas producers and Appellant, obligating the former to sell and deliver natural gas to the latter for the primary purpose of natural gas extraction with the right, but not the obligation, to sell the residue gas remaining after extraction. The gas covered by the contracts is described as casinghead gas (R. 222, 220). Casinghead gas is defined in the contracts as any gas with a natural gasoline content of 3/10th or more of a gallon per 1000 cubic feet of gas (R. 227). Some of Appellant's contracts cover lands that produce gas found by the Commission, under the guide of the statutory definition, to be sour; other contracts cover gas found by the Commission, under the same guide, to be sweet. There is principally involved a contract obligating Appellant to deliver residue gas in a specified amount per day to Combined Carbon Company for carbon black manufacture. Appellant asserts that it is delivering all residue gas available at the exhaust of its plant for carbon black manufacture, except a volume commensurate to the intake sweet gas which is used for plant fuel, and that it needs for plant fuel a volume equivalent to the allowable production of sweet gas wells connected to its natural gasoline plant.

Appellees believe that elsewhere in this Brief, under appropriate propositions it has been clearly shown that the enactment and enforcement of the sections and subsections of House Bill No. 266 here involved is a valid exercise of the police power.

It is doubtful that the Appellant is in a position to raise any constitutional question by reason of the temporary injunction it has permitting it to produce from its sour wells sufficient gas to fulfill its carbon black requirements. Nevertheless the argument under this point will proceed upon the premise that it is in a position to urge that the sections and subsections of House Bill No. 266 assailed by it operate to impair the obligation of its contracts in violation of the 14th Amendment of the Federal Constitution and in violation of Section 16, Article 1, of the Texas Constitution.

If Appellant were allowed to deliver sweet gas for carbon black manufacture a greater volume may be delivered under the obligation of the contract with Combined Carbon Company than Appellant can consume for plant fuel. Such is the nature of the impairment complained of.

It is asserted that this type of interference under the circumstances of this case is especially prohibited by the cited provisions of the Texas Constitution, because Section 29, Article 1, excepts the Bill of Rights from the general powers of government. Obviously counsel for Appellant conceives a distinction that does not exist between the opinion of the United States Supreme Court in *Home Building & Loan Associa-*

tion versus Blaisdell, 290 U. S. 398, 78 L. Ed. 413, 54 S. Ct. 231, and the opinion of the Texas Supreme Court in *Travelers' Insurance Company v. Marshall*, 76 S. W. (2d) 1007 (not yet officially reported).

It is evident that this misconception leads to the inevitable conclusion that one may escape completely police regulation of normal pursuits by making contracts with respect to the subject matter of such regulation. This same misconception was considered by Mr. Justice Holmes in *Hudson Water Company v. McCarter*, 209 U. S. 349, 52 L. Ed. 828, 29 S. Ct. 529, when he said:

> "One whose rights, such as they are, are subject to state restriction, cannot remove them from the power of the State by making a contract about them. The contract will carry with it the infirmities of the subject matter."

While it is conceded that the Supreme Court of Texas gave a broader application to the impairment clause in the Texas Constitution than was given by the United States Supreme Court to the impairment clause in the Federal Constitution, both courts had for consideration statutes which dealt *directly* and *purposely* with contractual relations as such; i.e., the subject matter of the statute was direct control of the relationship between contracting parties as distinguished from direct control of objects and things, physical, such as natural resources, in which the State is paramountly interested in affording protection to its citizens in the adjustment of their relationship to this resource. There are statutes which deal only with contractual relations, such as principal and agent, mort-

gagor and mortgagee, trustee and trustor, bailor and bailee, payor and payee, lienor and lienee—all without regard to the physical objects upon which the relationship may operate. There are likewise statutes dealing with oil, gas, coal, sulphur, water, air, light, soil, forests, buildings, involving generally the protection of citizens interest in health, safety, peace, morals and economy, all without regard to any antecedent promises that one may have made to another to do something about or with one or more of these physical things.

In both cases cited above it was only statutes of the former type that were involved, i.e., statutes going directly to the legal relation of the parties to a contract rather than to the physical thing that the contract was operating upon.

> "A statute which does not act on the contract itself, but merely on the property which was the subject of the contract, may not be said to impair the obligation of the contract." (*Sanderson v. Salmon River Canal Company* (Idaho 1927) (263 Pac. 32).

In the case of *Travelers' Insurance Company v. Marshall*, the insurance company was enjoined from foreclosing a deed of trust pursuant to a right and remedy created by a deed of trust. This right and remedy, a contractual obligation, was directly modified by a State statute extending the time of sale under specified conditions.

In *Home Building & Loan Association v. Blaisdell* the appellees invoked a relevant provision of a Minnesota statue requiring mortgagees to delay foreclosure

in direct contravention of the right created by the contract. In the Texas case, as well as the Minnesota case, the contractual provision involved was in fact directly and expressly modified in the same sense that contracting parties by agreement modify provisions of a contract. The minority opinion in the case last mentioned expressed the same view that the Supreme Court of Texas expressed in *Travelers' Insurance Company v. Marshall*. Nevertheless Mr. Justice Sutherland, speaking for the minority, said:

> "It is quite true also that 'the reservation of essential attributes of sovereign power is also read into contracts;' and that the legislature cannot 'bargain away the public health or the public morals.' General statutes to put an end to lotteries, the sale or manufacture of intoxicating liquors, the maintenance of nuisances, to protect the public safety, etc., although they have the indirect effect of absolutely destroying private contracts previously made in contemplation of a continuance of the state of affairs then in existence but subsequently prohibited, have been uniformly upheld as not violating the contract impairment clause. The distinction between legislation of that character and the Minnesota statutes, however, is readily observable. It may be demonstrated by an example. A, engaged in the business of manufacturing intoxicating liquor within a state, makes a contract, we will suppose, with B to manufacture and deliver at a stipulated price and at some date in the future, a quantity of whisky. Before the day arrives for the performance of the contract the state passes a law prohibiting the manufacture and sale of intoxicating liquor. The contract immediately falls because its performance has ceased to be lawful. This is so because the con-

tract is made upon the implied condition that a particular state of things shall continue to exist, "and when that state of things ceases to exist the bargain itself ceases to exist." Marshall v. Glanvill (1917) 2 K. B. 87, 91, 7 B.R.C. 621. In that case the plaintiff had been employed by the defendants upon a contract of service. While the contract was in force the country became involved in the World War, and plaintiff was called into the military service. The court held that this rendered performance unlawful and that the contract was at an end."

The Chief Justice of the United States in writing the majority opinion said:

"The economic interests of the State may justify the exercise of its continuing and dominant protective power notwithstanding interference with contracts. In Manigault v. Springs, 199 U S. 473, 50 L. ed. 274, 26 S. Ct. 127, riparian owners in South Carolina had made a contract for a clear passage through a creek by the removal of existing obstructions. Later, the legislature of the State by virtue of its broad authority to make public improvements, and in order to increase the taxable value of the lowlands which would be drained, authorized the construction of a dam across the creek. The Court sustained the statute upon the ground that the private interests were subservient to the public right. The Court said (id., p. 480): 'It is the settled law of this court that the interdiction of statutes impairing the obligation of contracts does not prevent the State from exercising such powers as are vested in it for the promotion of the common weal, or are necessary for the general good of the public, though contracts previously entered into between individuals may thereby be affected. This power, which in

its various ramifications is known as the police power, is an exercise of the sovereign right of the Government to protect the lives, health, morals, comfort and general welfare of the people, and is paramount to any rights under contracts between individuals.' "

In *Travelers' Insurance Company v. Marshall*. Chief Justice Cureton clearly recognized the particular type of statute he was dealing with when he said:

> "The basic purpose of the act is to grant stays of action and other proceedings otherwise maintainable on preexisting contracts for the benefit of distressed debtors" (76 S. W. (2d) 1009).

After an extended analysis Chief Justice Cureton concluded:

> "So, in view of the history of the adoption of the contract clause in the Federal Constitution, its incorporation in the organic laws of the several states, and the long judicial interpretation thereof by the Supreme Court of the United States, by the Supreme Courts of the several States, and by the Supreme Court of Texas prior to 1876 (the date of the adoption of our present Constitution) there is no doubt whatever but that Section 16 of our bill of rights (Article 1 of the Constitution) prohibits the enactment of moratory legislation which impairs the obligation of contracts, even though enacted during an industrial depression, such as this country had previously suffered in 1819, 1837, 1857, 1861-1865, and 1873."

It is thus apparent that both courts were dealing with statutes operating to modify contract obligations directly. The United States Supreme Court said that even this type of legislation will be sustained if

it is reasonable in the light of existing emergency and the remedy prescribed has a reasonable relation to an evil that the State is constitutionally competent to recognize and correct. The Texas Supreme Court agreeing with the minority view, especially as applied to the provisions of the Texas Constitution, held that a statute of this nature is in any and every event prohibited by Section 16, Article 1. The power to directly impair contractual relations was withdrawn from the general powers of government (Texas Constitution, Article 1, Section 29). But the Supreme Court of Texas did not say that a statute violates the Texas Constitution that deals directly with the physical things in which the State has many interests wholly apart from any contractual relationship.

That Chief Justice Cureton recognized this as the limit of his decision is clearly shown by his elaborate footnote (76 S. W. (2d) 1020), citing only cases involving statutes which dealt directly with provisions of contracts and the remedies for their enforcement. The rule of decision in *Travelers' Insurance Company v. Marshall* exists wholly apart from and did not disturb the universally recognized doctrine that:

> "The economic interest of the State may justify the exercise of its continuing and dominant protective power, notwithstanding interference with contracts."

Obviously House Bill No. 266, including the sections and subsections here assailed, is far removed from that class of statute operating directly to modify the written provisions of contracts. It is patently a statute enacted by the State in the exercise of its continuing

and dominant protective power over the economy and well being of its citizens without reference to provisions of prior contracts.

It is clearly a statute designed to protect the interests of the State and its citizens in one of the State's most important and useful natural resources—natural gas. It is the character of general statute described in the minority opinion in *Home Building & Loan Association v. Blaisdell,* (with which the Texas Supreme Court agreed), when it was there said:

> "General statutes to put an end to lotteries, the sale or manufacture of intoxicating liquors, the maintenance of nuisances, to protect the public safety, etc., although they have the indirect effect of absolutely destroying private contracts previously made in contemplation of a continuance of the state of affairs then in existence but subsequently prohibited, have been uniformly upheld as not violating the contract impairment clause. The distinction between legislation of that character and the Minnesota statute, however, is readily observable."

There is nothing contrary to these principles in *Murphy v. Phillips,* 63 S. W. (2d) 404, the other (Texas authority cited and relied upon by Appellant. (The same moratorium statute condemned by the Texas Supreme Court in *Travelers Insurance Co. v. Marshall* was there considered.) The distinction between direct and indirect impairment of the obligation of a contract is expressly recognized in that case, and it is specifically held that Article 1, Section 16, and Section 29, of the same article, constitute no limitation upon the power of the Legislature to enact a

statute incidentally resulting in the impairment of contracts. The court said:

> "It is readily deducible from the above quotations (1) that the police power is subject to the bill of rights and must not violate its inhibitions; (2) *that where in the proper exercise of the police power, a contract is incidentally impaired, there is no violation of the constitution* * * *" (63 S. W. (2d) 408) (Italics ours).
>
> Cf. *Lombardo v. City of Dallas*, 73 S. W. (2d) 475.

CONCLUSION

We confidently submit that the act and orders in question are well within range of legislative discretion.

These are not cases where it can be even hinted that property is taken for a public use. We have here a regulation of use so that orderly and uniform production may be had, a protection of title and ownership, so that the public interest will be served and injury to neighbors will be prevented. Surely the question of reasonableness is fairly debatable. In the words of Mr. Justice Stone in the case of *Standard Oil Co. v. City of Marysville*, 279 U. S. 582, 73 L. Ed. 856, 49 S. Ct. 430:

> "We need not labor the point, long settled, that where legislative action is within the scope of the police power, fairly debatable questions as to its reasonableness, wisdom, and propriety are not for the determination of courts, but for that of the legislative body on which rests the duty and responsibility of decision. * * *"

And, said Justice Stone:

"We may not test in the balance of judicial review the weight and sufficiency of the facts to sustain the conclusion of the legislative body, nor may we set aside the ordinance because compliance with it is burdensome" (279 U. S. 584).

We submit that appellant made no case entitling it to injunctive relief against the act and the orders of the Railroad Commission, and that the judgment of the lower court should be affirmed.

Respectfully submitted,

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CHARLES ELMORE CROPLEY
CLERK

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1936

No. 397

THE HENDERSON COMPANY,

vs. *Appellant,*

ERNEST O. THOMPSON ET AL.

This Memorandum is filed and submitted at the timely suggestion and with the permission of the Court, in explanation of Figure I, a part of the testimony of F. V. L. Patten (Record 315). Figure I is the exhibit which was before the Court during oral argument. Figure I is calculated to show drainage conditions in the Sanford area, where appellant's operations take place. Such drainage conditions, as they are exemplified in Figure I, are discussed by the witness, Patten, as shown in the printed record, pages 313 to 316, inclusive, under the heading in the record on page 313—"Drainage Conditions in the Sanford Area". In this same connection, and on the cited pages of the record, there appear the engineering conclusions that may be drawn from the facts as disclosed by Figure I.

Referring now in detail to Figure I:

1. The title of Figure I appears at the bottom of the page as The Henderson Co. Rock Pressure Contours July 1935.
2. The straight lines indicate the section or survey lines.
3. The broken straight lines indicate sub-divisions of ownership as they occur.

4. The C. R. I. & G. Ry. is shown in the conventional way.

5. The curved lines indicate pressure contours; that is, the reservoir pressure, as reflected in pounds per square inch at the bottom of the wells, through which (as indicated on Figure I) the contour lines pass. The Figures 250, 240, 230, 220, 210, 200, 190 and 160, as they appear in the pressure contour lines, indicate that amount of pressure in pounds per square inch that is reflected at the bottom of the well. All wells located on the same contour have the same pressure.

6. The red broken line, which has the word "sour" on the north side of it and the word "sweet" on the south side of it, represents the sweet-sour line in the area in controversy as of July 1935.

7. The wells indicated in small crosshatched red circles represent the wells and the location thereof owned by appellant. The seven wells of appellant represented in red, as well as other wells noted on the map located to the north and east of the sweet-sour line, are sour gas wells found to be such by the Commission in applying the statutory definition through the requisite chemical test.

8. The fourteen wells of appellant represented in red, as well as other wells noted on the map located to the south and west of the sweet-sour line, are sweet gas wells found to be such by the Commission in applying the statutory definition through the requisite chemical test.

9. The crosshatched square, colored in red, near the east center of the map indicated by the word "Henderson" to the right, is the location of appellant's natural gasoline plant. The figure 150,000 represents the plant capacity of 150,000,000 because it is conventional to state such figures in terms of thousands cubic feet (M. C. F.).

10. The figures in the northeast corner of every tract or block or survey represent the tract or block or survey number.

11. The printed names such as "Skelly", "P. P. Co.", "Gulf", represent either the owner of the lease or the owner of the land. The word "Henderson" does not appear at the location of the various Henderson wells, because as indicated by the record Henderson controls these wells under contract from the owners of the lease or of the land.

12. The two figures that appear on the map, near each well, represent respectively the rock pressure of the well and the potential of the well, in millions cubic feet per day; that is, the larger figure represents the rock pressure and the smaller figure represents the potential of the well in millions cubic feet per day, or fractional parts thereof.

For example: Take the northernmost well colored in red in the sour gas area. The figure 185 represents the rock pressure in pounds per square inch and the figure 27.4 indicates that the well's potential is 24,400,000 cubic feet per day.

As another illustration: The sweet gas well indicated in red to the extreme east bears the figure 185, indicating a reservoir pressure of 185 pounds per square inch.

Take another illustration: The sour gas well immediately to the west of the well just noted bears the figure 186 to denote the rock pressure and the figure 31.0 to denote the daily "openflow" capacity in millions cubic feet.

Obviously the Figure was introduced in evidence for the following purposes:

1. To show that appellant owns reserves and wells on both sides of the sweet-sour line.

2. To show that the slight differential in pressure would not cause an undue movement of gas from appellant's sweet wells. Assuming the matter of drainage is a material inquiry, this Figure I necessarily shows that gas migrates

to appellant's wells from all directions and that appellant's sweet and sour gas reserves necessarily gain in volume.

3. To show, also, that at any time an undue movement of gas commences and becomes a menace, such menace can be precluded by order of the Commission based upon its statutory authority to so regulate production as to protect the reserves of the co-owners of the reservoir against undue drainage.

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